/345 cont./

241 115 The Chiriguano are proud of the extent of their fields. "Capitán" Kemapeñi made me walk over all of his, emphasizing its size and the abundance of its produce. Another Chiriguano, after taking me along across all of his plantations, without sparing me one plot of ground, told me as he was bringing me back, with an air at the same time proud and questioning: "Guapo yo" /I am enterprising/. I answered that he was indeed very "guapo." He seemed flattered and happy.

The father clears his daughter's field, which represents for her a kind of dowry. The son-in-law must then take care of it, do the sowing and reap the harvest (1). My guide Cipriano

(385)

1. Corrado (p. 158) states that young married couples live at the expense of their parents and that they do not cultivate any chacras nor build a house before having a child.

complained bitterly about his son-in-law, whose laziness had obliged him to harvest his daughter's corn himself.

Chapter III

Cooking and Food

Food Resources

433 125 • 228 178 I have eaten meat only very rarely in Chiriguano villages, and I have never had a chance to taste a piece of game. It is not that this latter has disappeared from the region, exterminated by man, but the Chiriguano do not take the trouble to pursue it. In former days they were enthusiastic hunters, like nearly all the Indians of tropical America. When they were expecting guests for a drinking feast, the men went out into the bush and during 15 to 20 days got a good supply of the flesh of the peccary, deer, nandu, pigeon, armadillo, (151) chuña /a wading bird/, and even parrot. To preserve it they dried it in the sun without salt (Nimu. pp. 249-250).

/345 cont./

433 224 198 Outside these official expeditions they doubtless used to hunt for pleasure or simply to interrupt the monotony of their menu.

224 411 [223] Quadrupeds were killed with arrows with lanceolate tips, originally of wood, today of iron (Plates VIII and IX. 2); small game, with arrows tipped with a barbed wooden rod (Plate IX. 3-5). Birds were taken in traps or felled with a special arrow having a splayed ferrule (Plates X-XI).

224 [231] Anyone who has seen the little dogs of the Chiriguano Indians, with elongated /346/ muzzle, pointed ears, short hair, and arched tail will ask with surprise how animals so miserable, stupid, and snappish could have been trained to render service to man. Nevertheless, such seems to have been the case. For hunting the peccary, for example, the Indians employ the dogs, who track them and /Figs. 12 and 13 appear here/ force them to hide in their dens, from which they are smoked out and felled with blows of a stick when they try to run away. At least this is how the inhabitants of the village of Saladito (upper Pilcomayo) told me they had killed a peccary which they showed me at the time I was there.

433 224 184 For the modern Chiriguano, hunting has lost its reason for existing as an activity having an economic character, except perhaps /Plates VIII, IX, X, and XI appear here/ /347/ /Fig. 14 appears here/ for those of this nation who live [352] [412] in the region of the upper Pilcomayo. At least this is the impression I had after examining their huts: the bedsteads or wooden cots were often covered with peccary skins and the old deerhorn awls (Fig. 12) numerous enough to be able to be exchanged for a trifle. The relative abundance of these objects proves that among these Indians hunting has not been relegated /Fig. 15 appears here/ to the rank of a simple sport and that it keeps, at least in part, its past importance. [199] The contrast is striking if one then goes into the zone of the Franciscan missions: there, more peccary skins, more [411] perforators made of deerhorn, more ostrich feathers. In the villages of the upper Pilcomayo there is no cabin, poor as it may be, in which a bow and a bundle of arrows are not slipped

[Text Continues on p. 89]

/347 cont./

433 between the roof beams. Once out of this region the ethnog-
224 rapher will have all the difficulties in the world to acquire
184 these weapons for his collections. If they are offered to him,
[411] they will be either a few souvenirs of former days kept by an old man or crudely made specimens without any value other than that of a toy or a sport accessory for some rare lover of hunting.

224 The Indians of the semi-independent valley of Caipipendí
411 are still, in some villages, capable of making a bow and using
184 it. The arrows, which I bought from them in rather large quantity, almost all belonged to a single type and were intended, from what they told me, for killing the yakú (pavo del monte /wild turkey/ (Penelope sp.). They are long reeds armed with two barbed wooden rods (Plate IX, 1). One must not conclude that the yaku, abundant as they may be, rep-
[433] resent an appreciable food resource. Besides, hunting is scarcely practiced except by the young men, who do it for
[126] fun. The Indian who gave up to me the handsomest lot of
[425] these arrows felt some remorse about it; for, as he explained to me, /348/ they belonged to his little boy, who would not fail to cry when he found out that his father had sold them without his consent.

857 Chiriguano children are even more ardent about shoot-
868 ing with a bow than ours. One can see them run around the
224 village trying to shoot down with little miniature arrows (Plate XII, 2 and 4) the birds which light within their reach. Contrary to what took place formerly, once grown up they will not benefit from the skill they have thus acquired. /Fig. 16 appears here./

223 Some Indians of the Caipipendí valley sold me large
[126] bunches of nandu feathers. I could not find out whether they had taken them from birds killed in the region or whether they had been hunting them in the east nearer to the great deserts. That would not have been at all improbable, for nandus are certainly not numerous in this region; in a month's stay I
287 did not see any. These feathers serve for fashioning /Fig. 17
439 appears here/ feather dusters, which the Chiriguano sell in the

[Text continues on p. 91]

/348 cont./

287 439 [484] [435] half-breed villages. For the meager profits which this trade brings them they undertake long trips and even go as far as Sucre, where they are paid two to three pesos for each feather duster.

● 224 178 231 433 Hunting lost its importance from the day when the Chiriguano began to have cattle. Already about 20 years ago, those who /Plate XII appears here/ /349/ had several sheep, goats, cows, or even chickens did not take the trouble to accompany their comrades into the bush in search of game. What is the use of tiring oneself out running after peccaries for long days and risking getting oneself disemboweled or coming back empty-handed if just by staying home one can treat one's guests with some roast of meat or chicken broth?

231 435 [464] [465] The price of cattle has gone down a good deal these last years, and the Indians no longer need to go to the sugar mills of Argentina in order to come back with a cow or two in recompense for four to five months of hard work. Goats, sheep, and pigs are valued at two to four pesos apiece and it is often even a question of "prices for foreigners." A cow currently costs from 25 to 30 pesos, and an economical Indian has the means to acquire several during his life. Little by little, in each village modest herds have been formed, which the Indians care for like treasures. They husband them carefully, like all primitive peoples who raise cattle. They almost never kill their cow, and they sacrifice only rarely a goat or a sheep to their gluttony (1). In showing themselves to be so economical

471 231 [435]

[262] [178] 1. In former times they used to feel an unconquerable repugnance toward pork, which is dissipating nowadays (Nino, p. 252).

they are not obeying any superstition but simply are afraid to 556 diminish their capital. The wealth of an Indian is gauged by the number of his cows; and, in their Spanish jargon, "vacudo" /vaca, "cow"/ is a synonym for rich (2). Some of them have a

2. An Indian of Ñawirenda had as many as 40 head of cattle.

[Text Continues on p. 93]

2:Métraux E-5 (1929) 1948 SF10 Chiriguano SF10
Chane SF8

The migrations, wars, and the religious conversion of the *Chiriguano* have been the subjects of many historical monographs. The most important of these are by Corrado (1884), Serrano y Sanz (1898), Dominguez (1918), Gandia (1929 a, and b), Métraux (1930 b), Coni (1925), Moreno (1929), and Finot (1939). The Jesuit missionary work among the *Chiriguano* has been described by Lozano (1941) and Muriel (1918).

CULTURE

SUBSISTENCE ACTIVITIES

As today *Chiriguano* and *Chané* share in the same culture, the following data may apply to both tribes.

Farming.—The *Chané*, conquered by the *Chiriguano*, were proficient farmers who, though practicing a tropical type of agriculture, were probably acquainted with many of the methods of cultivation of the Andean area. The *Chiriguano* adopted their traditions. The new habitat of the *Chiriguano* did not offer the same resources for hunting and fishing as had their homeland. Therefore, these Indians depend on farming to a larger extent than any other *Tupí-Guaraní tribe*. The basis of their livelihood is maize, of which they have 11 varieties, all related to those of Paraguay. Then follow in order of importance: Pumpkins, beans (11 varieties), sweet potatoes, sweet manioc, peanuts, and some Barbary figs (*Opuntia* sp). Sweet potatoes were grown on a large scale by the *Chané* of the Parapetí River.

These Indians also raise cotton, tobacco, urucú, and, in the Parapetí region, reeds for arrow shafts (*Arundo donax*). Plants of the Old World adopted by the *Chiriguano* include melons, watermelons, oranges, sugarcane, and sorghum.

Chiriguano men clear the fields and surround them with a tall fence as a protection against the inroads of wild or domesticated animals, a task which is considered to be particularly strenuous. They also till the soil, but at harvest time they are assisted by the women and children. The latter, armed with slings, drive away the parakeets and other birds which prey on the crops. Nordenskiöld (1912, p. 183) observed that among the *Chané* of the Itiyuro region, large maize fields were tended by men while pumpkins and beans were raised by the women.

Collecting wild food.—When their crops fail, the *Chiriguano* subsist on the same species of pods and fruits as those collected by the Chaco Indians: Algarrobo, tusca, mistol, caraguatá, and other plant foods.

Hunting.—Hunting is a very secondary economic activity, at least in modern times. Peccaries, which are the main game animal, are hunted with specially trained dogs and killed with bows and arrows or with clubs. Rheas, which are abundant in the Chaco plains, are caught with bolas. Pigeons are captured with clap nets. Special arrows with two points are used for hunting yacu birds (*Penelope* sp.).

/31 cont./

Fauna

Quadrupeds

*136 *825 In this section I shall concern myself with a description of the quadrupeds, as the title indicates, and then, in the following sections, with other living beings. When dealing with them, I do not intend to make a complete list, so as not to make this little work too long; I shall therefore limit myself to a description of some of them.

AGOUTI-HUTIA. -- It seems that this quadruped rodent is peculiar to South America, but it is certain that it is found in the Chiriguano region, where they call it "Acuti." River banks and large permanent lakes are its most favored locale. [224] When pursued by hunters and dogs, it plunges in and swims under the water, fooling both by coming out on the opposite bank, where it quickly disappears into the woods. Its burrows have several entrances and exits, which are covered with leaves, while only one is left open; it has five toes on its feet; if some dangerous animal enters its burrow by the open door or entrance, it flees through any one of the others which are lightly covered.

Two other classes of agouti, live in the hills, woods, and pampas in this region and are very similar to the true one, but they have neither the same instincts nor the five toes on their feet; they have cloven hooves like lambs and get into planted fields, eat gourds and corn, and even feed on the husks of ulalas and other cacti; they are regarded as the archetype of thieves by the Chiriguano; thus, one compares a man or a woman who is light-fingered with the agouti, saying: "Mbuimonda acutí," thief like an agouti.

ANTA OR DANTA. -- This is the American tapir, unknown in other regions; it is the size of a year-old calf, does not have a hoof, but toes on all four feet, lives in the woods in a totally wild state, /32/ and it is ferocious, becoming enraged if it finds itself pursued. Otherwise it does not attack and feeds on grass and leaves; its meat is flavorful and plentiful. Its hide is tough and for this reason the jaguar is hardly able to slaughter it; it runs slowly, but tramples over everything,

/32 cont./

*136 *825 [281] bending or breaking every bush in its path. It is also a swimmer. Saddlemakers make from its hide headstalls and reins which are durable and hence highly valued. When the tapir is very small, it has a pelt like a fawn with yellow stripes and is easily domesticated. It is abundant near rivers and is very rare on the plains; few are found in the province of Acero. In the region of Cuevo and in others there are none at all, doubtless because these places are being settled by another type of man, that is to say, by whites, who can destroy them easily with the use of gunpowder. The Chiriguano like its [262] meat very much, and they call this animal "Borevi."

ARDILLA /squirrel/. -- A climbing quadruped which looks for its food in the trees which it climbs and goes down very quickly. There are two classes of these, one large and red in color and the other smaller and dark, but both are very graceful, with a rather long tail almost as large as the body as far as the neck and covered with rather long and very soft hair. When they sleep, they cover themselves up and protect themselves from the cold, the dew, and even from the rain with this tail, which they keep horizontally along the length of the body in order to climb and descend more nimbly. They [262] have very little meat, which is full of gristle, and, despite ● [224] the fact that they are quite edible, the Indians hunt them very [857] little; only the children hunt them for diversion and for practice in the use of the bow.

ARMADILLO. -- This animal, called "Tatu" by the Indians, is abundant. There are six types, which are: "Tatu," the generic name, or the true armadillo; "Taturapúa," balled armadillo; "Tatu rabucu," armadillo with hairs; "Tatu guasu," large armadillo; "Tatu acuti," a species of viscacha; "Anguya tutu," a species of large rat, but also with scales in common [262] with the armadillo. For the Indians the flesh of all of them [224] is edible, and the Indians of Yvu and Itatiqui continually go out hunting them. In dry places, like the pampas of the Gran Chaco, armadillos are more numerous; there they make their burrows under the ground in great lengths, making it dangerous to go on horseback through such places because the animals can sink in easily and at a gallop can break their legs, if they are not unlucky enough to crack their heads open. /Illustration appears here./

[TEXT Continues on P. 53]

/33/

*136 *825 The large armadillo is slightly less than one vara long; its burrow corresponds to its size and even more, and not infrequently the wild boar or peccary, when chased by hunters and dogs, finds a safe refuge in these holes. The meat of the large armadillo is not so good for civilized people, but that of the others is; I have eaten it many times. The fat softens the tumors and gristle in it. Armadillos feed on worms. Nevertheless, the true armadillo is harmful to the maize fields [241] when they are newly planted, because it searches out and eats the seeds; it is also very harmful in melon patches, of which it scarcely leaves a slender shred; when it gets into the melons, it does not allow any to ripen. The Indians know well [224] where the armadillo abounds; as soon as they finish planting the maize, on nights with a moon or without it, they go there and, helped by hunting dogs, kill them.

COBAYO /guinea pig/. -- This little animal is innocuous and plentiful everywhere. Its places are the fences, where it [262] hides with ease. It is similar to large rats without a tail; [237] its meat is very tasty, and bags in which smokers store tobacco, tinder, and flint are made from its skin. When it sees a hunter [224] or believes that danger is near, it hastens to hide in the thickness of the fences, but when the hunter hides, it is not long in coming out again in search of food, morning and evening, and then it is easy to kill with arrow or shotgun. The Chiriguano call it [231] "Aperea." There is another sort of multicolored guinea pig of the same size as the previous one, but this one is domesticated. The color of the true guinea pig is light brown.

CONEJO /rabbit/. A quadruped in the wild state, native to America, it is the size of a large cat. Its color is a shaded [224] white, and here there are none of any other color, but there [262] are in other parts of South America; its meat is delicious, and the Indians like it and hunt it; its form is the same as that of the domestic rabbit, and in the Chiriguano language it is called "Tapiti."

/33 cont./

*136 CORSO /deer/. -- This is found everywhere and is called
*825 "Huasu" by the Chiriguano and hurina by the whites; there are even white ones, the females without horns and the males with them; another type is called "huasucaca." Both feed off
[231] grass, and the little ones are pleasing with their hide dappled with light spots; they are easily domesticated while they are still nursing; for food, when they are domesticated, goat's or sheep's milk can be used. The huasucaca is very similar to the deer; both male and female have branched antlers when old, but /34/ their meat is not as good. They travel in herds.
[262] Hunters pursue both types because they have a lot of meat, for
[224] which reason they are called "huasu," which means "large." They hunt them with considerable work and with the help of dogs trained for the purpose, or, if they are hidden, they imitate their bleating or cracking sound, and when they come within bowshot, they do not miss in killing them. The
[281] Chiriguano tan the skin of these animals and make a jacket
[291] from it, which I shall discuss in its place, but today this de luxe Chiriguano garment is disappearing, nor do they tan leather any more; today they use these skins for their beds; it is nonetheless a perfect material for footwear because of its natural softness and smoothness.

*136 GAMO /fallow deer/. -- It seems that this class of animal is from the mountainous and temperate region; it is not found beyond Monteagudo, nor do the Indians here know it, but it used to be found and still is found in their former territory of Padilla, Tomina, Tarvita, etc. This is the fallow deer, the size of a goat, with cloven hoof, ash-gray in color, and quite a swift runner; it is herbivorous, quite edible, and goes in herds.

GUANACO. -- This is a kind of camel, from which it differs in size and because it does not have a hump. They are found in abundance at the top of the high hills of Potosí and other cold mountains; it thus seems that the hills and the cold must be congenial places and the only ones in which they can prosper. Nevertheless immense herds of this quadruped can be found in the pampas of the Gran Chaco, where the heat is oppressive and where there is nearly always a scarcity of water; it is easily domesticated and in this state is a real llama.

/34 cont./

*136 *825 [224] GATO /cat/. -- There are domestic ones, which are called "Minta," and there are wild ones, which are of two kinds. One is called "Baracaya" and is very harmful to chickens; at night it approaches dwellings in the country and even in towns, and it beheads any chickens it can; its meat is delicious and pleasant, and the Indians hunt it. The second species is called "Eira," or "Yaguarundi," depending on the locale; it is a species of small jaguar, slightly smaller than a fox; it has light spots on its pelt, and it runs and climbs trees very rapidly. It is not dangerous nor does it approach [224] houses in towns. The Chiriguano hunt it only for the pelt, which they sell at any price.

*136 *825 224 JABALI /wild boar/. -- Nothing suits the jabalí better than forests and the slopes of hills where it is difficult to penetrate. Therefore they multiply in the forests and form immense herds; the beast is /35/ ferocious. It is a rare occasion when one finds this type of quadruped, so similar to the [262] domestic pig, in a solitary state. The Indians call it "Taitetu," and they like its delicious and pleasant meat, but they almost never go out alone to hunt it, because it is a fearsome animal and charges impetuously, and only with the aid of dogs do they manage to kill some, and then the rest flee, but woe to the hunter who finds himself alone! The way to save oneself is to climb a tree which has a good trunk and better roots; otherwise in their rage and with so many of them they will tear it to pieces. If the hunter took the precaution of not abandoning his bow and arrows, he can easily kill all the jabalí he wants from that somewhat safe and sure place. When this animal chases the hunter, the dog will stop the chase and remain at some distance, because, without his master to defend him, he becomes cowardly at the sight of the immense tusks which sound like a hammer on an anvil.

*136 *825 LEÓN /lion/. -- This is not the majestic beast of Africa, nor could it here be the king of the beasts. It is the puma, and the Indians call it "Yaguapinta," or red jaguar, and in fact it is quite similar to the jaguar in its features, so much so that there is often a cross between the two animals, resulting in a neuter animal which is more ferocious and rapacious

/36 cont./

*136 *825 pick eight or ten ears, remove almost all the husk, leaving a few leaves on each ear and tying them together like a saddle-bag, put them over the shoulder in such a way that they hang down the back and chest, and go on their way. Meanwhile the monkeys have observed it all, come down, perform the same operation, and go back up the trees, or to the rocks, happy and content, to eat the fruit of their accomplishments.

There are four classes of monkeys: black, white, yellow, and red. There is also an orangutan that the Indians call "Caraya," hence the place called Carayagua, cave of caraya or orangutan. Monkey meat is good, but the Chiriguano do not hunt it; they do kill them because they are harmful, and they catch the young alive for pets. The abilities of the monkey are already known.

OSO /bear/. -- There exists in this region the true bear, which the Indians call "Yaguapope" and the whites, jucumari. It has long hair which comes down from its head, covering its face so much that, in order to see well, it raises it with its hands. It is fearsome when irritated; it throws stones and strips branches from trees and uses them as a club; the jaguar can do nothing with this animal, and should it measure its strength and ability against it, it is unlikely that it would get [224] [262] out alive. It has excellent meat, and the Indians hunt it, but woe is he who dares to do so alone and whose arrow misses and wounds it slightly, since it will quickly charge and smother its enemy!

PECCARY. -- The peccary, called "Tayasu" by the Chiriguano, is similar to the wild boar /jabalí/; this animal is more fearsome than its fellow-creature and has the same instincts. Both quadrupeds feed off roots, mistol, chañar, algarroba, and such other fruits as there are in the forest; the hides of these animals are easily tanned, but the Indians scarcely even use them for their beds. The jaguar is the constant companion of the female peccary who have young, /37/ because when it can, it quite calmly and patiently catches one, but if it is not careful and the little animal grunts loudly enough to be heard, the mother and the males come to its defense, and if the jaguar values its life, prudence will advise it to climb a strong tree.

/37 cont./

000 to climb a strong tree. The young[1] are quickly domesticated
*136 and more than the domestic pig; they will not go away from
231 the person who was kind to them when they were little. One of these piglets was domesticated by the apprentice musicians of the Parapiti, was with them day and night without bothering them, and when they came out of the music hall to practice marches through the town, the peccary would go along in front of them, making a thousand faces and hopping about to the sound of the instruments.

*136 PORCUPINE. -- This small animal is not numerous, but
*825 it is found. It gets into chicken coops, which are generally located in trees. According to what I have heard, it is not harmful and merely likes the company of the hens at night, but the latter are afraid of it, as they are of any strange animal. Its skin is entirely covered with long, flexible quills, and when it sees itself pursued, it humps up and throws the said quills with so much force that they injure any part of the body. It
● [224] is sometimes hunted because of the chickens, but not for eating. The Chiriguano call it "Cũĩi." If a dog bites it, it gets its mouth full of quills which cause pain.

TAMANDUA /anteater/. -- This is an innocuous wild animal which is easily domesticated. It has a very long, narrow snout, which it introduces into ant hills, and it takes its delicious lunch with its tongue, to which an infinity of ants stick. In the domesticated state it even feeds on milk, but it is painful to watch it sip this liquid drop by drop with its exceedingly slender tongue. Apparently males are unknown in this species of animal, and it seems that all of them belong to the female sex. It is very probable, however, that all the individuals of this species are members of both sexes, despite the fact that only the female sex is apparent in them.

The anteater, or tamandua, is inoffensive and does not
[224] bother the fields; rather it destroys ants. The Indian hunts it
[262] in order to eat it, because for him almost all meat is good, since he says that he is poor and thus avails himself of anything, even poisoned animals and those that have died of hydrophobia.

[1] [i.e., of the peccary. -Analyst]

/38 cont./

*136 true tiger of Africa; nevertheless it seems that both are equal in ferocity, but not in size and beauty; I have also seen the
● [224] African one. In spite of this the hide of the tiger, or jaguar, is most highly regarded here; there are cattle owners who will
[435] give the killer of a jaguar quite a valuable fat cow. The ordinary price is from 30 to 40 duros.

224 The Indians kill the jaguar with arrows and with the help of good dogs, called tigreros; the white Christians have differ-
~~000~~ ent methods, with bullets, strychnine, and traps. To kill by gunshot, one seeks fresh tracks and shows it to the best dog, who immediately sets off /39/ in pursuit, and the other dogs and the hunters follow the tigrero. If the jaguar climbs some tree, the tigrero dog will not go on until he discovers it; then he will begin to howl like one who is asking for help; the rest of the dogs arrive, the hunters arrive, and, seeing the animal up in the tree, they kill it with one or two shots; if it does not die then, once it is on the ground they finish killing it between hunters and dogs.

But the matter does not always end so easily; there are jaguars which tire out men and dogs by climbing up and down trees, running and stopping to face and kill some careless dog with a blow of his claws, and hiding in thickets where it is dangerous to approach and difficult to shoot at it accurately, and finally by scaling cliffs which are inaccessible to other animals. Thus the day often ends without anything achieved and with the jaguar fiercer than ever; it will stay away from that area for a few days, however, both in order to rest and so that it may avoid another unpleasant and dangerous encounter.

The second method of killing jaguars is with strychnine; the effects of this most powerful poison are well known. To accomplish this end the whites try to find out first where the animal has fresh meat, and there they put poison in the piece that it likes best, taking care not to handle the prey and to erase their tracks. But it is to be noted that some jaguars kill, eat a little bit, and leave the rest; for that reason it is not always certain that the jaguar will be killed by the use of poison. In addition, inasmuch as it has a very strong sense of smell, it is unlikely that it will return to the poisoned meat

/39 cont./

000 if it senses any danger; fear makes it very circumspect when it has done damage.

There is a third method of killing a jaguar, with traps. When it takes possession of a place, one must select a spot and a narrow path where it must necessarily pass without being able to go off to the side. Generally a path leading to a slain animal is sought; then at one side of the path a rifle is tied with the barrel pointed at the path. Somewhat ahead of the rifle there is put across the path a taut bejuco which the jaguar will push against to open the way, and at the rifle end a string of bejuco is run to the trigger, or, better, to the hammer, to which it is tied; with the rifle covered with leaves, the jaguar will not pay any attention to the bejuco, because it is accustomed to passing under it. When the beast arrives, unsuspecting, it pushes against the bejuco or cord, which in turn makes the hammer fall, the weapon discharges, and the beast falls mortally wounded, because the bullet enters it at the scapula or /40/ axilla. The bejuco must be placed at the height of the beast's chest; only thus is it infallible; the dogs themselves fall into this trap.

• 224 Finally, although it is rare, the jaguar can be killed with a dagger. One who has the courage for this does it with all serenity. Once the place where the beast has begun to be harmful is known, he will go in search of it with a poncho, a strong dagger, and a tigrero dog. This last is only necessary to find the place and stop the animal; as soon as this happens, the hunter wraps the poncho around his left arm, tucks in his sleeves and trouser legs, and resolutely approaches with dagger in hand. The jaguar then attacks at once, but the hunter lets it pass to one side, letting the same thing occur on the second and third charges so that it will tire a little. When it charges for the fourth or fifth time, he meets him head on, sticking his protected arm into the animal's mouth, and with his right hand, armed with the dagger, stabs it to the heart; the only thing that one needs is calm, valor, and dexterity, and anyone who does not have these qualities should not expose himself to the danger of death, nor should he even hunt the jaguar in the company of others, since this

* [805]

/40 cont./

224 animal is capable of distinguishing between the brave and
*[825] the cowardly, and the latter is the first to be attacked and consequently to be badly injured.

*825 Jaguar skin, as I have already said, has intrinsic value;
[554] it is used in saddleries for the bottom padding of saddles and
[281] for saddlebags; it is a luxury for persons of rank. The ani-
[757] mal has a quantity of fat, and this is a good remedy for
[439] rheumatism, aching bones, and other ailments; the Indians take it and sell it in the interior of the Republic and trade it for used clothing. It is to be noted, however, that they do falsify it, as they also falsify snake grease, because it can be understood that the killing of this ferocious animal is not a
[466] frequent thing. Rarely does the Chiriguano hunt the jaguar, and he is not always inclined to help the white man, but the latter forces his peons to do so, and they gather the fat and
[262] sell or present it to their friends or relatives. Jaguar meat is good food, although, to be sure, it smells wild, as does the skin, but this meat, if placed in salt water or brine overnight, loses its bad smell; they assert that this meat is like that of a cow.

*136 The male jaguar is quite large. I measured one, and it was two meters long from the tail, one meter high, and it weighed seven arrobas. The female is smaller; I measured one that had just been killed; from the tail it measured one meter and ten centimeters, was 75 centimeters high, and weighed four and a half arrobas. The female gives birth
[231] every three years, and the newborn cubs are always a pair, one male and one female; the mother is most dangerous when she has young /illustration appears here/ /41/ and defends them at any cost, but hunters first kill the mother and then try to catch the cubs alive; they almost always succeed and take them home to domesticate them, but this is an impossible job because they are jaguars forever; I have seen two of these cubs well chained but very bad. In general, cubs when taken away from their mother die in a few days either through lack of adequate food, which is milk, or also out of desperation upon finding themselves in the midst of beings foreign to their nature.

/41 cont./

*136 *825 [224] [262] [857] The Chiriguano hunts and kills the fox as a mischievous and harmful animal, but he does not eat its meat because it is very strong and lean; /42/ he does eat it occasionally, when he finds it to be fat, airing it so that it may lose its bad odor; it is a common food of the Toba Indians. The children entertain themselves with this poor animal, catching it alive and making it fight with the dogs, who kill it slowly.

*136 I here bring to an end this brief resumé of the principal quadrupeds by size, ferocity, and special characteristics. I have omitted the description of many because they are found in other regions, and others because they do not offer anything unusual for consideration. Rats are plentiful and in some years invade the towns. There is no lack of female foxes /raposas/, [231] which are easily domesticated; the ferret is rarely seen and is very nervous and harmless, but it has the peculiarity of hunting all the insects in a house.

Reptiles, Amphibians, Fish, and Insects

It is not necessary for me to dwell particularly and extensively on the types of living things indicated at the beginning of this section, because they are found in every region of the world; I shall describe the singular peculiarities of the known ones and the nature of some which are peculiar to this place and to South America.

*[825] [23] Almost all the snakes here are poisonous because the place is very hot, but the most poisonous is the rattlesnake; it operates rapidly with its fang, and only with immediate cauterization can the patient free himself of its death-dealing effects, while the boa, which is thick and long, is harmless, so much so that some domesticate it and put it into their cane fields so that it will scare off every harmful beast, even the fox which, as we have seen, is the animal which does the most damage to the sugar cane.

/160 cont./

574 The Chiriguano is naturally hospitable, and the stranger is welcomed in any hut of an Indian; he considers himself privileged to receive great persons, equals, and inferiors in his hut, which he at once moves out of in the case of the first, accomodating himself in the plaza or in the corridor, and renders him every service within his ability. The woman brings him water and cooks for him, and the man brings firewood and even takes out to pasture the animals with which he is to continue his trip.

574 178 [431] [293] If the Chiriguano has anything available, such as eggs, chickens, etc., he asks nothing for them and is quite happy if the stranger /illustration appears here/ /161/ gives him whatever he wants to when he takes his leave. If he has any of his pretasted liquor available, the first thing that he presents to his guest is a cup of this beverage. But today the situation is causing changes in their simple customs because of the refined ones of the civilized person, who has taught him to sell a chicken for as much as one boliviano. It is no longer as it once was, because his home was not respected (1).

1. Today they receive friends and acquaintances with respect and affection, because some guests or transients took advantage of the native by demanding things or persons to which they had no right.

622 527 [221] It is also a duty of the cacique to determine the time when the fiestas or public drinking sessions are to begin and their duration; these are generally held before and after planting, before and after harvest. If the rain increases and the previous harvest was very scant, the planting is advanced so that the maize will mature earlier and they will have something to drink for Easter. During the other months of the year the cacique directs the public fiestas, the general hunts for jabalíes /wild boar/, quiriquinchos /ostriches/, deer, chuñas /cranes/, and other wild animals (2).

622 224

293 824 191 2. Whenever and wherever maize does not grow in quantity, the Chiriguano imitates the Toba

[Text Continues on P. 221]

/178 cont./

372 [773] children who had been saved from the Iporu, deluge of water, he also taught them the way never to lose it, by rubbing pieces of wood together forcefully.

224 372 The Chiriguano is quite a hunter, and no wild animal or bird escapes from his eye and hand. On these hunting trips he often needs fire. If he is very far from town and prepares to sleep alone in the forest or in open country, he lights his fire in the way just described, in order to have its company, to keep away the jaguar and the demon, and to light his cigar and prepare his roast.

Work

Cleanliness

356 [362] Many will perhaps come to the conclusion that Chiriguano houses, poorly built and worse maintained because of the continual fire which gives off smoke and ash, are very dirty, without cleanliness or neatness, but nothing is more incorrect. The [515] [302] Indian despite his savagery is clean, and especially for cleanness he pulls out his facial and body hair, bathes daily, and combs his hair often, getting rid of the little animals which might be in his thick hair. The Cuña, or Chiriguano woman, constantly thinks of the cleanliness of her house, gallery, and the ground in front, up to four meters in length and width (2).

[362] 2. All can see that some Chiriguanos, out of laziness, live in their own very old and dilapidated houses, open to the sun, wind, rain, and dust; in others that have a new roof, walls are lacking, thus exposing them to getting pneumonia, but there is no lack of cleanliness in any of them.

/190 cont./

292 The Chiriguano, when he is dressed in these skins, considers himself a grandee, and he is one before his companions and the caciques themselves. But from the beginning, even before it is even worn, such clothing gives off a very disagreeable odor, like that of the soles of shoes. Let the reader imagine what it must be like when it has been used for some [296] time. It can easily be understood that the Chiriguano, when wearing the doublet, has nothing else on his body, and that all of the sweat, etc. sticks to it, and it should be noted that the outfit is never washed, which adds to the smell.

[622] [797] /191/ The cacique Nambi of Ivu made his visits to the P.P.C.C. of Santa Rosa Mission to ask for a mission in his town, dressing himself in his old and filthy doublet before making the visit. He embraced the missionaries and talked quite close to them, the result being almost unbearable (1).

1. The outfit is completed by a pair of boots called Timainu, which literally means: companion of the shin bone. These are necessary for hunters so that they will not hurt their legs when they are pursuing wild animals. • [224]

The illustration that I put at the beginning of this chapter /see p. 255/ will make the description of the Ambícuai more easily understood. There appear in it a young man and an old man standing, a woman sitting on a chair, and a young girl sitting on the ground. The old man dressed in a doublet is the cacique Güiraesa of Santa Rosa; the woman who is seated on the chair is his wife, the man on his right is his son Yandareca, and the girl is his Christian daughter, named Prisca.

[291] The Chiriguano who does not have a doublet is satisfied with his long poncho or with a blanket wrapped around his body down to his knees, but today it is rare that he cannot dress himself moderately well with some six varas of linen, [432] [439] which at the most will cost him two bolivianos. Today everything can be bought in the small retail stores (2).

2. The doublet is used today in some areas to

/249 cont./

Hunters

•224 So that there may be plenty of food at the public drinking, the men, as soon as they have finished the job of bringing in firewood, take their bows and arrows, and horses if they have any, and go hunting. The places are suitable for the purpose: some hunt Taitetu, wild boars; others pursue the Yandu, ostrich; many go in search of Picasuguasu, large pigeons. Yeruti, turtledoves. Picúi, little doves. They also hunt: Guasu, /250/ pygmy deer; Sariama, chuñas /cranes/; Ayuru, parrots; and Tatu, quiriquinchos /armadillos/ (1).

[262] 1. The armadillos are of several types: the meat of the Taturapúa, balled armadillo, is not good, because it feeds on carcasses; the meat of the rest is better than that of the pig /chancho/; it is not harmful like that of the latter.

[251] The hunters take some 15 or 20 days to return, but as they take game, they cut it open, clean it, and dry it in the sun, so that it will not spoil, because they do not carry salt, since they do not have it, for making jerky or charqui.

224 231 Almost all the Chiriguano are hunters, and the infinite number of dogs that they keep in their houses have the ability to pursue the wild boar, the quiriquincho /armadillo/, the ostrich, the chuña /crane/, or the pygmy deer. These dogs are almost like Old World wolves, with pointed ears and a curled tail; they are so skinny they look like harps, so bad with mestizos and whites that it seems that they have learned to hate them as their owners do, and they are so attached to the latter that they never leave their side. They go with them everywhere; it is not unusual to see an Indian who is going to the field followed or preceded by eight or ten dogs, who are falling down from being so thin, and yet, should they flush a pygmy deer or a chuña, they will not let it get away. To walk alone at night through a Chiriguano town is to expose oneself to being eaten alive by these hungry tigers who all gather when the first one barks.

/230 cont./

•224 184 Although all the Indians are hunters, not all can or go to hunt: some stay in town to help the women put the jars /cántaros/ in the plaza, and others do not go because they have other food available for their friends. Some of them have goats and sheep, others even chickens and cows: these take pride in being able to offer their friends in the public plaza chicken soup, or one of lamb or kid, or a succulent roast of veal, since there is no doubt that anyone would prefer fresh meat to charqui or dried meat of wild animals.

[231] [594]

Animals

231 From the little that has been said with reference to animals it can be deduced that the Chiriguano have some, and they are the horse, ass, mule, cow, sheep, goat, chicken, and dog: all of them have Spanish names, /231/ except the chicken, Uru, and the dog, Ýáimba. It is possible that these last are native, that is, that the Chiriguano have always had them, since they have their own name in the language: but if one reflects a little some doubt rises in the mind. The chicken, so it seems to me, is called Uru by the Chiriguano because it has some resemblance to the turkey buzzard, which they call Urugû and which is a species of crow. The dog is called Ýáimba in Chiriguano, no doubt because he is very faithful to his master, Ya, which really means owner-master, and imba, beast, so that the dog turns out to be a special beast which, more than others, loves its owner or master, and I say this because other tribes who are neighbors of the Chiriguano and are in a complete state of savagery do not have the dog, from which it can be deduced that they acquired it when the Spaniards entered their country (1).

[199]

1. For my opinion to be complete and closer to the truth, the word imba should have an h: nevertheless, I do not give this as more than an opinion. The literal meaning of the word Ýáimba would be beast of the owner.

Schmidtmühle B 4/5(1909-1918, 1923) 1929
SF13 Chiriguano SF13
Chané SF8

shall see that the methods of fishing differ somewhat in the different rivers. At the Rio Pilcomayo the Indians must always have found a good supply of food. As many Chiriguano live by very insignificant streams they never have the opportunity of fishing. The Chané all live in places where they are able to procure fish during some part of the year at least.

Big game is scarce in the land of the Chiriguano and Chané. Nor are these Indians keen huntsmen. One seldom sees game that has been killed by them in their huts. The great flocks of fat pigeons that settle in their fields are for the most part left unmolested.

As we shall see in the following the Chiriguano and Chané live mostly by tilling the ground. Owing to the comparative dryness of their land maize is cultivated more than anything else. It is the ease with which this plant can be grown here, that makes the land of the Chiriguano and Chané a good land to dwell in.

The fruit of the carob-tree (algarroba) is the most important wild fruit. Probably no careful study has ever been made of the climatic conditions of the Chiriguano and Chané country. It is situated in the tropics, north of the tropic of Capricorn and the traveller there of course suffers more from heat than cold. In May and June especially, however, when there is a strong south wind, it is agreeable to have a well built house, warm clothes and a soft bed. The rains begin in December and leave off in April or May. It sometimes happens that there is little or no rain and then the crops are a failure. They are often destroyed by grasshoppers.

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SF10 Chiriguano SF10
Chaco SF6

IV.

Hunting Equipment.

The Chiriguano and the Chané are not keen huntsmen. They are rarely seen out hunting. Their hunting-weapons are the bow and arrow, the pellet-bow, clubs, slings, and snares, all of their own manufacture. The Chiriguano have bird-nets too, and formerly they had the bola as well. The Chiriguano and the Chané have no weapons exclusively used in warfare. Formerly they had lances[1].

The bow and arrow are going quite out of use among these Indians except for fishing and as a weapon for boys. The degenerate type of bow now seen among the Chané and Chiriguano is certainly not original. According to LIZARRAGA[2] the Chiriguano used to have bows of a man's height. It is of great interest to learn from LIZÁRRAGA that the Chiriguano used to protect their left wrist with a small piece of wood to prevent the skin being grased by the bow-string. Something similar occurs among the Ashluslay (see Part I. P. 42).

Their arrows are very like those used by the Choroti and Ashluslay. The arrow shafts are of the same kind of reed[3]. At the Rio Parapiti this plant, which grows abundantly beside the Rio Pilcomayo is cultivated by the Indians. On the Rio Parapiti there is a place called Ouivarenda, which means »where there is cruchio.« This plant, the *Gynerium* sp. whose reed-stalks so many Indian tribes use

[1] Cursiv P. 331.

[2] P. 308. "Andan desnudos y quando mucho qual ó qual tiene una camisetilla hasta el ombligo; . . . son grandes flecheros; sus armas son arco y flecha; el arco tan grande como el mismo que lo tira, y porque la cuerda no lastime la mano izquierda, en la muñeca enrajan un trocillo de madera y allí da la cuerda."

[3] *Arundo donax.*

[4] [Errata: this should read "See Serrano y Sanz. P. 228." (4 acrylic sheet, Cat. #6, Rack 5 -- Archive.)]

S:Nordenskiöld E-5,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

of the Choroti and Ashluslay. As far as I know they are only used for hunting peccary. These animals are brought to bay by dogs and killed with clubs. I do not venture to say where this most primitive kind of club originated.

Fig. 9.

Fig. 11.

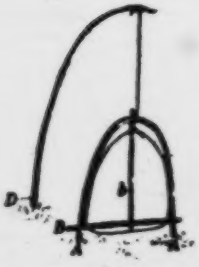

Fig. 12.

Fig. 10.

Fig. 9. Club of hard wood. Chiriguano. R. M. E. 380. 1/8
» 10. Parrot-snare. Chané, Rio Parapiti. R. M. P. 1/11.
» 11. Parrot-snare made of a piece of twine and a feather. The specimen depicted is from the Tapiete. R. M. L. 267. 1/2.
» 12. Snare. Chané, Rio Itiyuro.

5:Nordenskiöld E-5,4 (1908-1909. 1913) 1920
SF10 Chiriguano SF10
Chane SF8
South American Indians 53

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Map 4. The distribution of the hunting net.

S:Nordenskiöld E-8,½(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8

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my travels. Though rather an extensive collection, it is quite insufficient for comparative researches.

The bird-nets used for hunting, occasionally found among (4) the Chiriguano, are of great interest (fig. 13 and map 4). I have not seen hunting nets elsewhere. Bird-nets are mentioned by several writers from the Alakaluf. These Indians and the Chonos were also acquainted with seal-nets. The statements in literature about these nets are to be found in COOPER's[1]) excellent work. CREVAUX speaks of hunting nets from (4S) the Mirañas[2]). UHLE[3]) mentions finds of the kind in Atacama. JOYCE[4]) speaks of nets that were used for hunting deer and birds on the coast of Peru. He depicts a very interesting earthenware vessel found at Trujillo representing a deer-hunt in which the huntsmen used the throwing stick and the hunting net. COBO[5]) speaks of bird-nets from the Inca. PALOMINO[6]) mentions nets used for deer-hunting from Chuquimayo in northern Peru. Hunting-nets are also mentioned by ORTIGUERA[7]) and by the author of Jornada de Omagua y Dorado[8]) from the Aruaquinos on the Amazon. From what OVIEDO Y VALDES[9]) says, the Indians also used hunting nets on the Rio Orinoco. GOMARA[10]) mentions nets from Cumaná in which ant-eaters were caught.

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[1]) P. 190.

[2]) After DENIKER (2) P. 640. «Quoique vivant sur les bords de rivières poissonneuses, ils ne pêchent point et se bornent á chasser comme les anciens Quichua á l'aide de filets tendus entre les arbres, dans lesquels ils poussent, á force de cris et de gestes, les bêtes effarouchées.»

[3]) (5) P. 109.

[4]) (1) P. 124.

[5]) T. 4, P. 225.

[6]) P. XLVIII.

[7]) P. 370.

[8]) P. 448.

[9]) T. 2, P. 221. «Toman colorniças y conexos y tórtolas en mucha cantidad con laços y redes: assi tambien zorras y raposos, como muchos puercos salvajes de los que llaman *vaquiros*.»

[10]) P. 206.

S:Nordenskiöld E-6,4 (1908-1909. 1913) 1920
SF10 Chiriguano SF10
Chane SF8

SUAREZ DE CEPEDA[1]) in his most interesting treatise on the Colima-Indians in Columbia, tells us that they tried to catch comets, which they imagined to be birds, with nets which they placed in their fields. This seems to prove that these Indians knew the use of bird nets. CASTELLANOS[2]) states that the Indians in the valley of the Patia (in southern Columbia) tried to catch the Spaniards' horses with nets. Most all of these authors who speak of the hunting net belong to the sixteenth century. This should give those who are doing work like mine some food for reflection. It proves how perfectly indispensable this old literature is as a means of learning the ethnology of the S. American Indians. *How imperfect a map of this kind would have been without the old literature!* One may ask why hunting nets are so scarce now. This is apparently owing to the fact that in most places where hunting nets have been in use the Indians have lost their original civilization. The above authors not having given us a detailed description of the nets, we do not know if they resemble those used by the Chiriguano. We are not even always told what was caught in these hunting nets.

The deer-nets used on the Peruvian coast were of course considerably larger than the nets used here. Their shape also was quite different. The Chiriguano nets are clap-nets and are used in the following way. The net is spread on the ground at a spot where there are plenty of pigeons. The pigeons are decoyed with maize to settle between the two halves of the net. A string runs from the net to a fowler

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[1]) P. 517. »Los rrayos que se estienden y esparcen de la cola ó cabeça de la cometa dizen que son plumas y pelos del paxaro que yendo bolando las vá despidiendo para fin de las cosas que viene á acabar: y para mitigar y rregalar la yra de la furia atajando por algun buen medio..... y en sus labranças arman unas redes de hilo muy de proposito estas dizen que son para enredar y caçar en ellas la pobre cometa.«

[2]) P. 437.

S:\Nordenskiöld E-5/(1908-1909, 1913) 1920
SP10 Chiriguano SP10
Chaco SP8

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223

hidden behind a bush or the like. With a pull of the string the man makes the net fall upon the maize-eating pigeons.

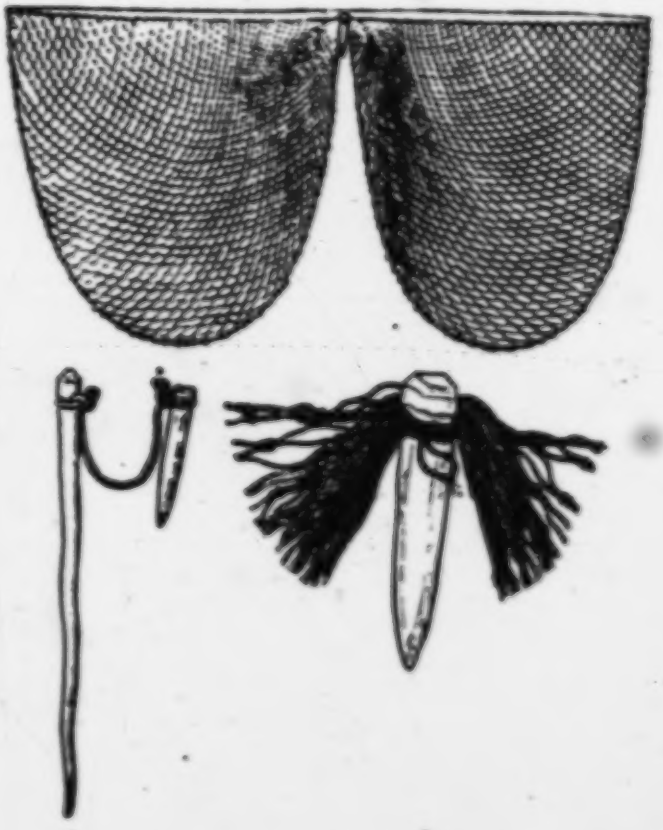

Fig. 13. Bird-net. Chiriguano. Caipipendi. R. M. E. 1910. Breadth = 385 cm.
a = Sticks fixed at sides of bird net. 1/10. b = Middle part of bird net. 1/5.

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Deer nets were stretched between poles, as is plainly seen in the picture on the vessel reproduced by JOYCE. The nets mentioned by GOMARA from Cumaná as well as those

5:Nordenskiöld E-5,4 (1908-1909. 1913) 1920
SF10 Chiriguano SF10
Chane SF8

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used by the Colima Indians to catch the »Comet-bird» were obviously also fixed nets.

We cannot prove that the different kinds of hunting-nets are of the same origin. Judging by the general distribution of the hunting-net in S. America, it is, however, likely that the Chiriguano learnt their use from the western culture zone. As has already been mentioned, COBO says that bird-nets occurred among the Inca.

/180 cont./
the most common among the Chiriguano. Only those women who live with the whites and have adopted their manners and customs carry jugs on their heads.

Division of Labor between the Sexes

Here too, as among the Choroti and Ashluslay Indians, each sex, as a rule, has its specific work, as we see from the following table:

Table showing the division of labor between men and women among the Chané and Chiriguano.

	Men	Women		Men	Women
Fishing . . .	+	+ (1)	Gathering wild fruits and tubers		+
Hunting . . .	+		Ceramics . . .		+
Planting, clearing . .	+		Woodworking . .	+	
sowing . .	+	+	Knotting nets . .	+	
reaping . .	+	+	Plaiting rope . .	+	
Cooking	(2)	+	Plaiting mats . .	+	
Carrying wood . . .	+	+ (3)	Tying hammocks .		+
Carrying water . . .		+	Leather work . .	+	
Preparing intoxicating drinks		+	Making weapons .	+	

1. As a rule, the women fish in shallow water, the men in deep water.

2. Sometimes take part in the preparation of the hunting booty.

3. Among the Chané on the Rio Parapiti.

/181 cont./

Branches of Subsistence

Fishing and hunting do not play an important role among the Chané and Chiriguano. As I have mentioned before, they are farmers, primarily maize farmers. These Indians live so exclusively on maize that for them all other food plays a subordinate role. The Indians living on the Rio Parapiti are an exception; they plant more sweet potatoes than maize, and these yield an excellent harvest in their country.

/182/ The following plants are grown by the Chané and Chiriguano:

Sweet potatoes.
Maize.
Squash (Cucurbita pepo Lin.).
Calabash fruits.
Beans of different varieties.
Cotton.
Urucú.
Tobacco.
Tuna (for example, at Yatavéri). Opuntia.
Millet.
Mandioca (rare).
Reed for arrow shafts (on the Rio Parapiti).

In the plantings of these Indians I saw neither ordinary potatoes nor bananas. The sweet potatoes, according to Batirayu's statements, were introduced at a late period by the whites. Tobacco-raising is insignificant. The Chané and Chiriguano are not great smokers. They mostly smoke cigarettes in maize leaves, seldom pipes (Fig. 88). Among them one need not give his pipe to a neighbor for further smoking.

It is strange how the use of tobacco differs among the Indian tribes. The Aymara and Quichua /Quechua/, who chew coca, very seldom smoke. They have no taste for it. The Chacobo and Atsahuaca, two tribes with whom I became acquainted on my travels, smoked just as little. When I offered a Chacobo a ooo

/183 cont./

The Chané and the Chiriguano are not great hunters. Perhaps in former times there was more hunting. Their hunting weapons consist of bow and arrow. For hunting wild pigs they use clubs; for ostrich hunts the boleadora /bola/, "churima," was formerly used. Snares and bird nets are also found. In former times the hunters wore /184/ a costume of leather cut in imitation of a European cut, obviously copied from the Spaniards (1). This

1. Viedma already mentions this costume, p. 181.

was not permitted to hang in the house. Formerly, also among the Chané on the Rio Parapiti, no meat could be cooked in the house; rather, this had to be done a short distance away. Boys are, of course, eager hunters of small birds. Like the men, they sometimes use clay-projectile bows.

There are hunting dogs specially trained for hunting wild pigs. In a Chané village on the Rio Itiyuro I saw how all the dogs had a red cross painted on their heads, so that they would not be bitten by a mad dog running about in the vicinity. It was truly amusing to see how these heathen Chané protected their dogs against rabies with the sign of the cross.

Batirayu told me that Chané men, when they go hunting, are not permitted to sleep with their wives the night before.

Fishing is carried on differently in the various rivers.

In the Rio Itiyuro women and children almost exclusively do the fishing. There are only small fish there too. I saw three methods of fishing there. Angling, fishing with calabashes, and fishing by damming up pools. The fishhooks consist of bent needles obtained from the whites. Floats and sinkers are not used.

Fishing with calabashes is done in the following way. Several bunches of leaves, which give shade, are stuck in the bottom of the river, and in front of each of these is placed a calabash (Fig. 90) with sour, ground maize (residue from beer brewing). The fish gather in the calabashes, which are taken out from time to time by the women. The latter creep toward the calabash, quickly place a hand over the opening, lift /185/ it up, and then empty the contents into pits along the river bank.

7:Rosen E-5 (1901-1902) 1924 SF10 Chiriguano SF10

CHAPTER VIII.

The Chiriguanos (2).

Industries. Cultivated plants. Hunting. Fishing. Vessels for food and drink. Intoxicants and stimulants. Music and dancing. Social order. Customs governing marriages, childbearing, illnesses, death and burial. Character and temperament. Belief in metempsychosis.

The Chiriguano are mainly an agricultural people, but they also do a certain amount of hunting and fishing. Maize is the most important of their cultivated plants, and it is very extensively grown by them. Many other Indian domestic plants are also cultivated, viz. pumpkins, sweet potatoes, beans, mani, cactus with edible fruit (Opuntia), tobacco, cotton, uruku (Bixa orellana), and a reed plant (Arundo donax) for making arrow-shafts. Of imported cultivated plants grown by the Chiriguano, I have seen melons, water melons, sugar cane and oranges. According to Nordenskiöld, they also grow figs and millet,[1] these latter of course also having been introduced by the whites. Nowadays, European spades and hoes are used for loosening the soil. Among wild-growing food plants the algarrobo tree (Prosopis alba) is, to the Chiriguanos, the most important one. The Indians also prepare from the fruit of this tree an intoxicating drink to which they are much addicted.

The Chiriguano larder does not to any great extent depend on hunting the game, but formerly hunting must certainly have been an important *source of subsistence*. Snaring is, nowadays, the 'only' method of hunting employed by the Chiriguano. The long-bow, the pellet-bow, slings, bird-nets and clubs are still occasionally used in hunting.

In olden times the Indians were good shots with the bow and arrow, and, according to Lizarraga, they then used bows the height of a man.

[1] Nordenskiöld (IV), pp. 23 and 24.

Cc 343 182 171 231

/18 cont./ Their Purpose
today among the Chiriguano and Chané, as well as among the Matako and Churupí, is primarily to protect certain provisions against the numerous dogs and other domestic animals who are around in great number in every part of the town (74).

74. Concerning the question of the purpose of houses built upon posts with respect to damage by animals, cf. v. Rosen, op. cit., pp. 192-198.

Cc 433 224 226

Food and Dink. Manner of Eating and Drinking.

Hunting and fishing are not very important in the economy of the Chiriguano and Chané. Their territory has relatively few edible animals, and they are not very brave hunters (75).

75. Nord. 2, p. XVI.

Cc 224 262

Of animals that can be hunted, they eat the puma and the jaguar, while they scorn vultures, foxes, and the meat of monkeys, so craved by other Indians (76). One contribution

76. Nord. 1, p. 190.

Cc 226 184

to their subsistence which is worth mentioning is that from fishing, but only for the Chiriguano and Chané who live near the upper Pilcomayo River, since that river has excellent fishing. These Indians cannot make much use of fishing in the Rio Grande, because today this river can be held to be almost the frontier of their territory. The Parapití River has many fish, but they are very small. While the Chané today live in territories where for several months some fish are available, many Chiriguano towns are so far from the larger streams that fish does not enter into the diet of their inhabitants (77). With

77. Nord. 2, pp. XV and XVI.

/39 cont./

Cc 231 Tamed wild animals are rarely found inside their houses, except that they do have some parrots (182) /see footnote 182 above/.

Hunting

C Cc 224 [433] [411] [439] We have explained before that, because of the lack of animals that can be eaten in the territory of the Chiriguano and Chané, hunting is secondary among their means of subsistence, and in accordance with this we know through old documents that the feathers for their arrows were introduced to the Chiriguano by other Indian tribes who were their tributaries (183). The raising of domestic livestock gives them a

Cc [231]

183. Moreno II, 121.

C 224 greater opportunity to obtain animal foodstuffs. In accordance with the fact that the Chiriguano, at least today, are not first-class hunters, the most common method of hunting among them is the use of traps (184). Nordenskiöld describes three

C 223

184. V. Rosen, op. cit., p. 205.

different kinds of traps, all three of which are used for catching birds (185). The first kind consists of a simple noose and is used

185. Nord. 2, pp. 32, 33, and 85, Fig. 10, 12, and 13.

C [171] with the help of calls. The second kind, which is common among various other tribes of Indians, is used, for example, also by the Kaingua /Caingua/. The third kind consists of a net made Cc [993] in two parts and fixed to the ground by means of stakes. In one [223] of the Chané legends recorded by Nordenskiöld, a trap for catching doves is mentioned (186).

186. Nord. 1, p. 279.

/49/

Macana in the Collection

411
[126] I. A. 517. (Chiriguano.) Length 64 cm. (Fig. 38).

[191] The wooden macana, acquired from the Chiriguano, is provided at its upper end with a broadening distinctly delimited from the handle (cf. Fig. 38) and in that respect corresponds to the macanas that we know from various Chaco tribes, for example, the Toba, but it does not correspond to the Chiriguano macana shown in a drawing by Nordenskiöld (197).

197. Nord. 2, Fig. 9.

The latter is about the same length, but it does not show the clear broadening at the handle, its upper end being only slightly broader. According to Nordenskiöld, the Chiriguano [224] do not use these macanas except for hunting pigs (198).

198. Nord. 1, p. 183.

[126] Slings (tamomboka) in the Collection

I. A. 508 Chiriguano. Length of the middle part of net 15 cm.
I. A. 509 " " " " " " 14 cm. (Fig. 36b.)

The two slings acquired from the Chiriguano seem to be [286] exactly alike. They consist of a middle part made with the net technique with caraguata-fiber string which terminates at [284] each end with a cord. One of these two cords ends in a simple knot and the other in a small loop. These slings are like the Chané ones shown in drawings by Nordenskiöld, while the manufacture of the middle part of the Chiriguano sling shown by Nordenskiöld is different (199). The Chiriguano in contact

199. Nord. 2, Fig. 7, A.

C 411 199 /43 cont./ The Chiriguano in Contact with the Quichua /Quechua/ also use another type of sling made of wool (200).

200. Métraux 1, p. 342 and Plate VII.

C 224 [411] According to Nordenskiöld, the Chiriguano also formerly used the bola, called "churima," by them, for hunting the ostrich (201).

201. Nord. 1, p. 183.

C [231] We must still mention that the Chiriguano train their dogs for hunting, especially for hunting pigs (202).

202. Nord. 2, p. 31. Métraux 1, p. 346.

Fishing

C 433 226 Because, as I have already mentioned, there is no opportunity for fishing in any part of the Chiriguano territory nd also the large rivers which are in their territory, except for the upper Pilcomayo River, do not offer any fish other than very small ones, fishing has only secondary importance in the economy of most of the Chiriguano, although they utilize every chance they have to fish.

C 227 Among the Chiriguano in Machareti I did not see any fishing equipment outside of the small arrows with wire points, which are occasionally used for fishing. But among the Izozó CC 126 229 I acquired such a piece of equipment, which consists of a net bag that is closed at the top with two sticks of cane attached to the upper edge. (Cf. Figure 39.)

/76 cont./

The Working of Skins and Leather Tanning

The Chiriguano and Chané know the art of tanning leather, and they use for that the bark of the "Piptadenia" and other trees. No doubt they obtained the knowledge of this craft from the whites. They use not only tanned leather, but also strips of animal skin for the making of sundry objects (279), but the

279. Nord. 2, p. 165.

craft of working leather and skins is not an important one. It is said that formerly the Chiriguano, when they went hunting, wore leather clothing conforming to the European style (280).

280. Nord. 1, p. 184. Nord. 2, pp. 60 and 61. Viedma, op. cit., p. 181. Cited in Nordenskiöld.

Beyond that, leather is not used for making clothing, except to make sandals (281). The men's modern custom of wearing

281. Nord. 2, p. 69, Fig. 23.

a leather belt must be attributed to the influence of the whites. Without counting its application to the making of bridles and saddles for horses and asses, either draft or saddle animals, on which we have no data, strips cut from leather or from animal skins are used in the form of straps, principally to transport or hanging up some object. In place of the common vegetable-fiber cords, leather straps are often put on the nets for carrying burdens, on hammocks, and also on the boops mentioned above, in which they keep things. The band of the Chiriguano net for carrying burdens I. A. 564 consists of an untanned cowhide strap. See Figure 134 /see p. 209/. The Izozó vessel I. A. 617 has a leather strap attached to its handles. The strings of the bows for shooting arrows are strips of animal skin, and the Chiriguano net I. A. 573 is made of cowhide strips.

226

226 FISHING--species caught (e. g., fish, shellfish); gathering of marine fauna; fishing methods and techniques (e. g., hook and line, nets, poison); description and use of traps and weirs; special elaborations (e. g., fishing for sport); economic importance of fishing; organization of labor and division of catch; associated beliefs and practices; fishing for sport; regulation (e. g., licenses); etc.

See also:

[illegible] . . . . . 139 [illegible] 396

[illegible] . . . . . 670 [illegible] 801

/349 cont./
556 tendency to estimate the value of objects in cows. For example,
[435] a loom with a nearly finished poncho was offered to me "for
[437] a cow," and the owner of the loom could not understand that it was difficult for me to convert the exchange into money.

262 Charqui, or meat dried in the sun, most often replaces
[251] fresh meat in the menus of our Indians. It is not a question of preference, but of necessity. Charqui is cheap and is bought in an estancia.

Fishing

221 When I went through the Chiriguano villages of the upper
• 226 Pilcomayo and the Parapití, the rivers were in flood, the corn was ripening in the fields, and no Indian wanted to let the parrots eat his corn in order to go to catch fish at the risk of getting himself carried off by the current. If I had come back to these same villages in July or August, the scene would have been completely different. The rivers would have been only thin trickles of water, and in every direction I should have perceived men /350/ and women busy fishing. The fishing season would have been at its height.

[178] The Chiriguano, having come from a country rich in watercourses, have in this respect preserved the traditions of their ancestors of the Paraná or the Paraguay.

226 Some, equipped with large landing nets (Fig. 18), form barriers against the current and advance, gathering the fish as if
[229] with a spoon. Then they grab them and attach them to their
[482] belts, after /Fig. 18 appears here/ threading them on a cord by means of a wooden needle (Fig. 19). Others lie in wait for a fish in the water and, as it goes by, impale it with an arrow equipped with several points (Fig. 20) or simply with two long, barbed wooden rods. Some, with the help of stone barriers, try to make the fish converge toward the opening of a wicker trap (1). Sometimes a group of individuals turn aside a

1. Compare Lizárraga (Vol. I, p. 260): "in summer (the Chiriguano) divert a stretch of the river; they leave the fish in the drained

/350 cont./

C 226

arm of the river: in waist-deep water they enter it with their bows and arrows and shoot them there, and any that escape the arrow the women go after with nets into which they fall." /Translated from the Spanish./

C 229

C [283]

Fig. 18. Landing net of cotton thread (puiss). Chiriguano. Prov.: Ibopeyti. (1/19 nat. size.)

C 226 watercourse, leaving the fish dry, and catch them by hand or
C [229] with a sieve (?). Iron fishhooks are equally popular: the
Ce 226

2. Nordenskiöld (2, pp. 184-185) describes a curious way of catching fish which is in use among the Chané of the Itiyuro River. They set branches in the water, which give shade and attract the fish. They also put there a calabash with some scraps of corn. The fish enter the calabash, whose neck is narrow. When several fish have gone in, the women close the orifice of the calabash with the hand and pull it up to the surface.

/351/

226 /Figs. 19-22 appear here/ /352/ Chiriguano attach them to the
[227] end of long cords. A spear with one or two points serves to
[481] harpoon the enormous surubí which pass within their reach
262 (Fig. 21). It goes without saying that the Chiriguano are
439 marvelous swimmers.

The Chiriguano like fish (1). If they live far from the

226
195
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1. The skill of the Chiriguano at fishing had already attracted the attention of the ancient chroniclers. Acosta (Vol. I, p. 236) reports that he had a chance to see them handle the spear, a specimen of which is reproduced here in Figure 21. "Some Chiriguanas plunged under the water and, swimming with admirable speed, followed the fish, and with some fish spears, or harpoons, which they carried in the right hand, swimming only with the left, they struck the fish; and, spearing it thus, they came up, so that they certainly seemed to be more fish than men of the land." /Translated from the Spanish./

Rosen (1, Fig. 215, p. 213) represents a Chiriguano holding one of these two-pointed spears in his hand.

262 Pilcomayo and cannot get any directly, they buy it from the
439 Toba or the Matako, who are good fishermen and in addition have the advantage of living on the very banks of the lower Pilcomayo.

[482] In the dry season one can see near Pilcomayo a continual coming and going of Chiriguano, bent under the weight of their
[464] nets full of ears of corn that they are going to barter for fresh or dried fish. They would not hesitate, it appears, to travel 150 kilometers to feast on it (Nino, p. 251).

2:Métraux E-S (1929) 1948 SF10 Chiriguano SF10
Chane SF8

C Ca 226

Fishing.—Fishing is worth while only for those *Chiriguano* and *Chané* who live along the upper Pilcomayo or Bermejo Rivers and, to lesser extent, for the *Chané* of the Parapetí and Itiyuro Rivers. Methods of fishing vary somewhat with the regions. Along the Pilcomayo River, fish are caught with iron hooks, with dipnets, similar to those of the Chaco Indians, with the bow and arrow, and with long two-pronged spears. Fishing baskets are used in combination with stone dams (fig. 57).

Ea [171]

C 226

FIGURE 57.—*Chiriguano* fish dam in the Pilcomayo River. *A* is entrance; *B* are pockets where fish are caught. (Redrawn from Nordenskiöld, 1930, fig. 14.)

Ca 226 [462]

Among the *Chané* of the Itiyuro, fishing is done almost exclusively by women and children. They use hooks, but more often they capture fish in small ponds which they cut from the main stream by means of weirs. They also catch small fish in narrow-necked gourds into which they place chicha dregs as a bait. The *Chané* of the Parapetí scoop fish with nets or shoot them with arrows tipped with a bundle of cactus thorns (Nordenskiöld, 1912, pp. 184–185).

C 231

Domesticated animals.—Modern *Chiriguano* raise sheep, cattle, horses, and chickens. Their dogs are so completely mongrel that their European or Indian origin cannot be ascertained. The *Chiriguano* were probably acquainted with chickens when they arrived in their present territory, for they use a *Guaraní* term for them. Pets are not numerous in their villages; most of them are parrots which were captured by means of a noose attached to the end of a long pole. In order to approach the wild birds, the Indians use tame parrots and decoys.

C [223]

Cooking.—Maize is prepared in a great many ways. The grains are eaten on the cob, roasted in special pans, boiled in water, or ground into flour, which is served with every meal. One method of preparing maize flour is to steam it in a perforated bowl.

C 252

/8 cont./

133 The rivers which bathe the Chiriguano region are four: the Pilcomayo, the Parapiti, the Grande or Guapay River, and the Acero. The Pilcomayo begins in the northwest of Potosí Department and crosses Chiriguano country in the southeast. Its water, sweet and clear up to the southern part of [135] Igüembe Canton, is somewhat salty in Huacaya and Villamontes, because to the southeast of Ibopeiti it receives as a tributary the Salado River with its rather abundant waters; these waters are quite salty, because they pass through the salt flats of O'Connor Province. Its bed is wide and shallow, but its flow is very abundant from December to April, because this is the rainy season. If in Villamontes the Germans or others open the great canal proposed by the Supreme Government, the navigation of this river up to the estuaries /esteros/ of the P. Patiño, even in small boats, will be made nearly impossible, because there will not be enough water for it.

136 In the Pilcomayo fish are abundant: bagre, shad /sábalo/, and dorado; some of the latter are very large, up to a meter and a half in length. The first freshets of the rainy season wash up and kill many fish, leaving them stretched out on the ground on both banks or piling them up like stones or firewood. Then • 226 the Chiriguano Indians, the Toba, and Mataco fill their houses, and dogs and crows come there by the thousands and stuff themselves, while the air is full of unbearable miasmas.

[221] The most satisfactory and safest season for fishing is from [251] the May cold until the end of July and in certain years up to the middle of August; then all the Indians are fishermen; they fish for themselves and for trading; they open the fish though the middle vertically and dry it in the sun. If nobody goes [438] there to barter, they go off to sell it at 20 centavos apiece. [435] but generally during the fishing season the tribes far from the rivers go to the banks of same, taking maize or parched meal and bringing back abundant fish. /Illustration appears here./

/227 cont./
881 health, contract marriage, serve their husbands very efficiently,
178 and educate their children, who are born with all the perfection
177 of nature (1).

1. In the Chiriguano region, even in that part won by the missionaries of Potosí after the year 1870, many maidens of the white race have contracted marriage, having reached a suitable age.

Imposition of the Tembeta

855 The education of the boy, as has already been seen, is the task of both parents. Up to a certain age it is almost exclusively that of the mother, and after the age of six or seven years, exclusively that of the father, who accustoms him to field chores, to hunting, and even to fishing in the areas where
226 there are large rivers. Fishing is done by the women in the
462 little streams, and the men assist them in the diversion of the water and setting up two boundaries in the form of a \/, open to allow the water to pass through, a job they call Parirenta.

881 /228/ The time now comes for the boy to be a man and
[195] not a boy, the time to give up the ú ú of his affirmative answers and to adopt the Ta suitable for the Cuimbae, or man
[304] ready for everything. His father, his grandfather, his mother,
[301] and other relatives make him understand that for this it is
[885] necessary that he show his companions the distinctive mark of
[554] the tribe, that is to say, it is necessary to have his lower lip, Tembe, pierced and to place in the hole the Tembeta, which for the Chiriguano is a sign of his manliness (1).

[192] 1. The tembeta is a word made up of tembe, lower lip, and ta or ita, stone, which literally translated, means stone for the lower lip, where it is put.

/251 cont./

Other Comestibles

226 184 After this digression I return with an account of comestibles in order to end the chapter now. The Indian finds in everything goodness and sweetness for his molars. He is very eager for fish, [437] but not all the tribes have it nearby; when they learn that there is fish in abundance on the banks of the big rivers, they travel as far as 150 kilometers to barter; they take maize or meal and trade it for fish. Those who live on the river banks are valiant fishermen, with no distinction by sex; they fish with hooks, staying in the water for hours, but they know with great sensitivity when the fish has taken the bait into its stomach; others fish with nets, which they have in every size, as I have seen on the Parapiti River, as well as on the Pilcomayo, near the Pirapo toward the west (2).

[438] [435] [431] 2. The Indians who bring fish back to their tribes do business, selling them at 10 and 20 centavos each; they also eat them and present them to friends and relatives.

226 Others make large baskets of hollow cane, open at a single point, put them in the river, and the fish go in without being able to get out; these baskets are called Pari. Along the rivers I even saw two lines of rocks sticking out of the water and ending /252/ in an angle, where the water forms a small waterfall. There, at the angle, they put a big net or other apparatus and catch many fish. They call this apparatus Itapare; even the carcancho /a bird/ will place itself at the angle and have a breakfast of fresh fish.

Finally, at waterfalls eight or ten meters high, they place close by a big net which gets all the smaller or medium-sized fish, since the big ones go up and down easily, while the former fall into the net; in the places where the fish are small, they divert the course of the stream and thus manage to catch all those which are left without their element.

5:Nordenskiöld E-8,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

Some Choroti live near Yacuiba. In nearly all of the Chiriguano territory there are Mestizos and Whites. There are also several large missionary stations in their territory. Some few Chiriguano live in the village of Sta Rosa to the north of Sta Cruz de la Sierra. Some Chiriguano who sought refuge in central Chaco after their last rebellion, live there still. They are the only tribe of Chiriguano-Indians who are quite independent of the Whites.

The country which is inhabited by the Chiriguano and partly by the Chané is a border land between the Andine mountains and the great plain of the Chaco. It is in the valleys between the outermost mountain ridges towards the Chaco and on the plain to the east of them that the Chiriguano and the Chané live. The land of the Chiriguano and Chané-Indians is not a real country of primeval forests. There are some great forests, but on the whole it is sparsely wooded, in places even very poorly wooded. The supply of water is the governing condition for settlement in the land of these Indians. It may be said that wherever there is access to water there the country is inhabited, at any rate as regards the region south of the Rio Grande, one of the great rivers that run through their territory. There need not be a great supply of water for the Indians to find the country inhabitable. All that is necessary is sufficient drinking-water for man and beast, as at Itatique and in the Caipipendi valley near Rio Parapiti.

The biggest rivers running through the territory of the Chiriguano and the Chané are the Rio Grande, the Rio Parapiti and above all the Rio Pilcomayo. The Rio Grande may now almost be considered the boundary river of these tribes towards the north, and is of but little importance to them. The Rio Parapiti is a strange river. While well supplied with water in the mountains it is almost shrinks to nothing in the plains during the dry season. During the rains it is very full of water and may be dangerous to ford. Fish are plentiful only in the Rio Pilcomayo, and we

S:Nordenskiöld E-S/V(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

shall see that the methods of fishing differ somewhat in the different rivers. At the Rio Pilcomayo the Indians must always have found a good supply of food. As many Chiriguano live by very insignificant streams they never have the opportunity of fishing. The Chané all live in places where they are able to procure fish during some part of the year at least.

Big game is scarce in the land of the Chiriguano and Chané. Nor are these Indians keen huntsmen. One seldom sees game that has been killed by them in their huts. The great flocks of fat pigeons that settle in their fields are for the most part left unmolested.

As we shall see in the following the Chiriguano and Chané live mostly by tilling the ground. Owing to the comparative dryness of their land maize is cultivated more than anything else. It is the ease with which this plant can be grown here, that makes the land of the Chiriguano and Chané a good land to dwell in.

The fruit of the carob-tree (algarrobo) is the most important wild fruit. Probably no careful study has ever been made of the climatic conditions of the Chiriguano and Chané country. It is situated in the tropics, north of the tropic of Capricorn and the traveller there of course suffers more from heat than cold. In May and June especially, however, when there is a strong south wind, it is agreeable to have a well built house, warm clothes and a snug bed. The rains begin in December and leave off in April or May. It sometimes happens that there is little or no rain and then the crops are a failure. They are often destroyed by grasshoppers.

S:\Nordenskiöld E-S\j(1908-1909, 1913) 1920
IP10 Chiriguano IP10
Chaco IP1

C
ee
441
[824]

for arrow shafts has been completely destroyed by cattle along the Rio Parapiti. Formerly the Chané made the shafts for their arrows of »chuchio».

The arrow points are made of hard wood and sometimes of iron. Arrows with several tips are used for fishing and sometimes also for shooting birds. Arrow-tips made of cactus spikes are used by some Chiriguano for fishing. Some characteristic types of arrows are depicted here (fig. 6). Some arrows are feathered to guide the flight. The feathers are fixed in the way that Metraux calls »Peruvian cemented feathering». The feathers are quite small as on Chaco arrows generally. Arrows with thickened heads (bird arrows) are very common. Some of them have the shape we see depicted here (fig. 6 E). This type does not occur among any of the other tribes I got to know during my travels, but they are common among several peoples living in the east, e. g. the Caingué, Guató, and Bororó, and in the northern part of S. America, among the Trio, Goahibo and others. They have most likely been introduced here by the Chiriguano. It is not probable that they have come from the Arawaks for, as a rule, they do not use blunt bird-arrows. In Part I I have published a map (No. 3) showing the distribution of the bird-arrow in S. America. Later on I will deal with arrows particularly used for fishing. The Chiriguano and Chané sometimes use a special kind of bast to bind round the arrow where the point is inserted in the shaft. The same kind of bast is not met with among the Chorotí and Ashluslay or among the other Chaco tribes I have got to know. It occurs, however, among the Caingué.

C
[824]
[226]

C
Ce
[171]

C
[171]

C
ce
[283]
[171]

In part I I have already published a map showing the distribution of the sling in S. America. I have nothing to add to this which cannot be seen in the subjoined drawings (fig. 7).

The pellet-bow is rather common among the Chiriguano and also among the Chané. It is chiefly used by boys and youths. I wish here to make a few additions to what I have said about the pellet-bow in Part I.

S:Nordenskiöld E-5 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

V.

Fishing tackle.

Three methods of fishing are known to the Chiriguano and Chané with, moreover, a northerly distribution. These methods are the use of the fish-spear or fishgig, the use of many pointed arrows, and fishing with poison.

I have not seen the fishspear among the Chiriguano. ERIC VON ROSEN[1]), however, depicts one from this tribe which is preserved in the Riksmuseum in Stockholm. Something like it from these Indians is mentioned by ACOSTA[2]).

The Guarayú[3]) spear eels with two single-pointed spears of »chonta». According to EDER[4]) the Mojo used fish-spears with three points. They did their spearing by torchlight and fixed the torches in the prow of their canoes. According to FREIREISS[5]) the Coroados had double-pointed fish-spears. KOCH-GRÜNBERG[6]) mentions triple-pointed fish-gigs from the Huhúteni and other Indians in northwestern Brazil. The Indians in the northwest of Brazil also fish by torchlight. The Indians at Lago Titicaca[7]) use triple-point-

[1]) (1) Pl. XIV.

[2]) T. I, P. 236 »Otro género de pesca vi, á que me llevó el Virey Don Francisco de Toledo; verdad es, que no era en mar, sino en un rio, que llaman el Rio Grande, en la Provincia de los Charcas, donde unos Chiriguanas se zabullian debajo del agua, y nadando con admirable presteza seguian los peces, y con unas fiscas, ó harpones que llevaban en la mano derecha, nadando solo con la izquierda herian el pescado, y así atrevesado lo sacaban arriba, que cierto parecian ellos ser mas peces, que hombres de la tierra.»

[3]) NORDENSKIÖLD (1) P. 177.

[4]) P. 301.

[5]) P. 271.

[6]) (2) T. 2, P. 34, Fig. 9. See also WHIFFEN P. 113.

[7]) NEVEU-LEMAIRE P. 75.

5:Nordenskiöld E-5,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8
South American Indians S3

ed poles *that are used both as fish spears and to punt their rafts along.*

It is not unlikely at all that it is the multi-pointed pole which has suggested the fish spear. These poles are multi-pointed in order that they may be used in swamps, to punt their canoes along. It was natural that the Indians should try with these poles to have a thrust at any fish they might see. Then, if they migrated to a district where many-pointed poles were no longer needed, these poles lived on as fishspears.

As I have already mentioned the Chiriguano shoot fish with a bow and arrow. For this purpose they sometimes, though not always, use many-pointed arrows. I have seen two different types which are depicted here (fig. 15). One has two wooden points, the other which was used at Rio Parapiti for shooting small fish, has many points of cactus spikes. Two or three-pointed arrows used for shooting fish are spread in South America chiefly in the water region of the Amazon, as indicated on map 5 and table 4.

I have not visited any Chané who live where they are able to use this method of fishing. Among the arrows in my collection there are no multipointed ones that came from them.

As seen from map 5 and table 4, the many-pointed fish-arrow seems to be a cultural element that came to the Chiriguano from the north part of S. America, most likely from Mojos. I have seen the harpoon arrow neither among the Chiriguano nor the Chané.

Table 4.

The following tribes use multi-pointed fishing-arrows. Map 5.

4. Chiriguano, Fig. 15. Two or many points.
31. Trio, GOEJE (1) Pl. V. Fig. 9. Three-pointed.
33. Campa, THERESE v. BAYERN (2) Vol. 2, Pl. 1,7 Four-pointed.

5:Nordenskiöld E-5,4(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chane SF8
South American Indians 53

41.	Pauserna, Two-pointed.
43.	Huanyam, Three-pointed.
47 a.	Patamona, THULIN G. M. Three-pointed.
48.	Indians Northwestern Brazil. KOCH-GRÜNBERG (2) T. 2. P. 230. Two-pointed.
Not on the map	Schakaja—Rio Orinoco. RATZEL Vol. 1. Pl. 24. Three-pointed.
55.	Indians, coast of Guiana. STEDMAN T. 2, P. 1[illegible]. BARRERE P. 169; QUANDT. Fig. 6. Three to five pointed.
63.	Yamiaca, Four-pointed. For bird-shooting. Probably also used for fishing.
64.	Huari, Two or three-pointed. Nambicuara, ROQUETTE-PINTO (2) P. 184. Two, three and four-pointed.
70.	Piro, Upper Rio Purus. KOCH-GRÜNBERG. Communicated by letter.
V3.	Caripou, MOCQUET Fig. CC. Three-pointed.
6X.	Tambopata-Guarayo. Three-pointed.
2M.	Wapisiana. FARABEE Fig. 13. Three-pointed.

I have not seen these Indians fish with poison. At the Upper Rio Pilcomayo, however, I heard in 1913 that the Chiriguano know how to poison the water with a certain kind of bark as a means of catching fish. A great number of plants are used by S. American Indians for this purpose, particularly in the basin of the Amazon.[1]) On the map and table, I have endeavoured in some measure to elucidate the distribution of this fishing-method. Curiously enough KARL V. D. STEINEN did not see this method of fishing among the Indians tribes at the upper Rio Xingu.[2]) I have neither seen it myself nor heard of it among the Indians in El Gran Chaco. Nor does MAX SCHMIDT mention fishing with poison from the Guató.

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[1]) See further KOCH-GRÜNBERG (1) T. 2.
[2]) (3) P. 235.

Nordenskiöld E-8,4 (1908-1909, 1912) 1920
SF10 Chiriguano SF10
Chane SF9

South American Indians 53

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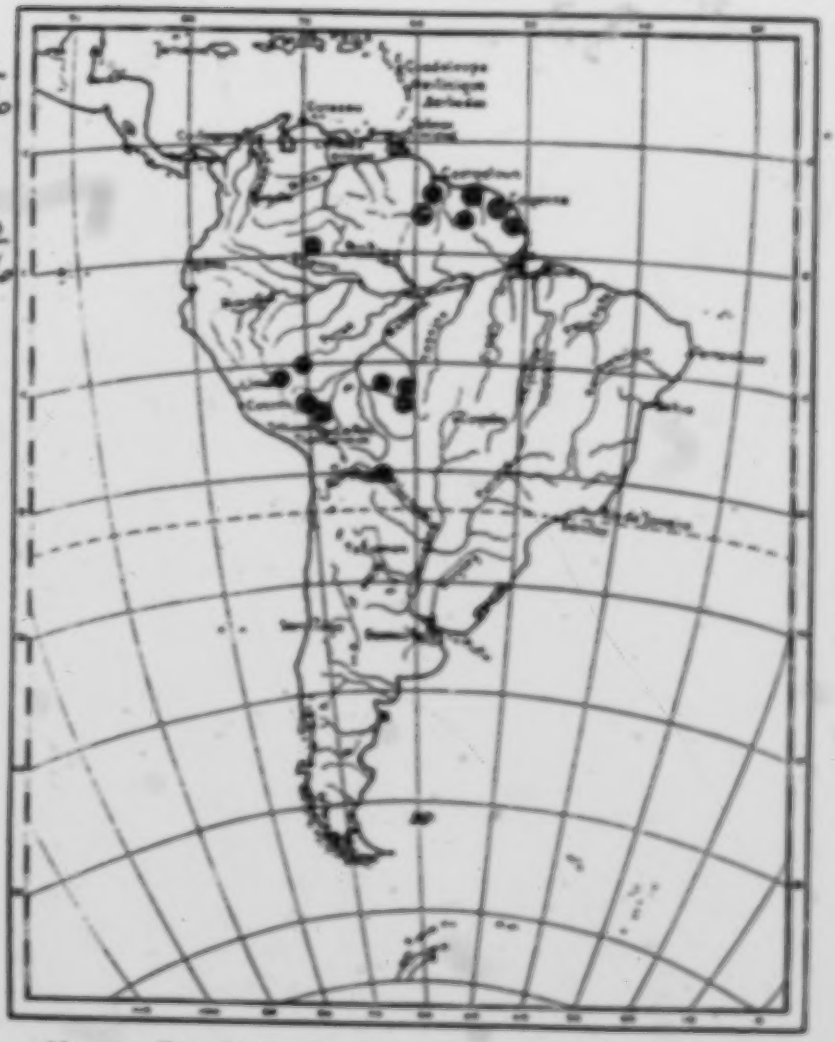

Map. 5. The distribution of the multi-pointed fishing arrow.

Schneeschuhe E-4,5(1908-1909, 1913) 1920
SF10 Chiriguano SF11
Chaco SF1
South American Indians 53

Table 5.

Fishing with poison. Map 6.

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226 4. Chiriguano.
171 10. Araucanians, Molina P. 188; Guevara (1) P. 90.
102 13. Karajá. Krause P. 250.
5 15. Kayapó. Krause P. 386.
102 18. Quichua. Cobo T. 4. P. 227.
226 21. Caingué. Ambrosetti (7) P. 748.
23. Churipa.
24. Chimáne.
25. Mojo. Fiedr P. 303–304.
30. Guayaqui. Ambrosetti (7) P. 748.
31. Ronkóuyennes. Crevaux. P. 267, 289.
33. Campa. Grandidier P. 142.
34. Jivaro. Rivet (1) P. 57.
37. Motilon. Bollaert (2) P. 36.
38. Tupí. Varnhagen P. LXXVIII.
40. Guarayú. In the missions.
45. Botocud-Indians. Wied P. 51.
47. Patagonia, Thulin; Wapisiana, Farabee P. 59.
48. Indians northwestern Brazil, Koch-Grünberg (1) T. 2. P. 48. with literature.
49. Arawa, Armentia (2) P. 141.
51. Sirionó, Herrmo P. 79.
55. Indians Coast of Guiana. Bury P. 358; Stedman T. 2. P. 119.
58. Cayina, Tumupasa, cultivate plants for their poison.
61. Indians Rio Vaupés and Rio Içó. Whiffen P. 113.
62. Chacobo.
74. Tamanaco, Gilij. P. 325.
77. Tapirapé. Krause P. 407.
79. Goiaz and Yekuaná. Plant. Koch-Grünberg.
90. Chipaya and Curuahé. Snethlage P. 77.
94. Chiquitos, Fernandez P. 46.
99. Cumanagoto. Caulin. P. 90.

Schmidt-Schiffel 2-3,4 (1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8
South American Indians 53

6 P. Aguaruna, QUINTANILLA P. 79; HABICH P. 172.
IX. Colorado, RIVET (1) P. 57.
IX. Paez, UHLOHORN (2) P. 77.
7 F. Half civilized Indians, Lower Tapajos, BATES P. 200.
4 I. Caxinaua, ABREU P. 36.
7 S. Arawaks, IM THURN P. 234.
8 S. Indians Orinoco, GUMILLA T. 1, P. 322.
9 S. Mayuna, CHANTRE Y HERRERA P. 106; SAABEDRA P. CXLVII.
1 T. Lengua, WEDDELL P. 448.
2 T. Indians at Sehapaja, near Moyobamba, HERNDON P. 165.
3 T. Acroquas, Oyapoc, Guiana, FAUQUE P. 318.
4 T. Indians Rio Uruyali, CASTELNAU Vol. 4. P. 446—447.
X 7. Indians Rio Amazonas, ACUÑA P. 71.
1 Indians Paraguay, DOBRIZHOFFER T. 1, P. 344.
0-4. " Rio Cassiquiare, RIVERO P. 8[1]).
0-5. " Rio Negro, RIBEIRO DE SAMPAYO. P. 21[1]).

The Chiriguano and the Chané fish with dip-nets both in the Rio Parapiti and in the Rio Pilcomayo. Those used in the Rio Parapiti are small and the meshes fine, as only small fish occur there. They seem to be dwarfed specimens of the big nets used in the Rio Pilcomayo. I know too little about the distribution of different types of nets in S. America to try to show their geographical distribution. Dip-nets like these used by the Chiriguano and Chané I have only seen among the Choroti, Ashluslay, Mataco, [71]* Toba and Tapiete.

On the Upper Rio Pilcomayo the Chiriguano build great dams of stone in which they catch fish when the fish are making their way up the river. Such damming contrivances are also mentioned by CORNEJO[2]) from the Chiriguano

[1]) After PAUSCHKE. Communicated by letters.
[2]) P. 00.

S:Nordenskiöld E-8,V(1908-1909, 1913) 1920
SF10 Chiriguano SF10
Chané SF8

who dwelt on the Upper Rio Bermejo beyond Centa. The Figure 14 shows us the construction of one of these dams. Nino[1]) speaks of a large kind of trap, the »pari», used by the Chiriguano. I have not come across any of them in my travels. The Caingang[2]) call big traps »parjo», as do also the Apiacá[3]).

I have seen the Chané at Rio Itiyuro fishing with calabashes and also employing the method of making dams.[4]) Fishing with calabashes proceeds as follows: A number of leafy boughs are stuck into the bottom of the stream to form a shadow and in front of each one of them a calabash containing sour ground maize offal from the chicha brewing is placed. The fish enter the calabash, which is emptied now and then by the women. I have not seen this method of fishing in any other place.

The Chiriguano and Chané also fish with hooks which they now get from the Whites. They use neither floats nor sinkers.

Among present-day Indians I have seen an original fishhook from the Tambopata-Guarayo. That the fish-hook in S. America is of pre-Columbian origin is known by the numerous finds of fish-hooks on the coast of Peru and Chili made by UHLE and others. Among the Chiriguano the fish-hook is certainly also a pre-Columbian cultural element. This is apparent from the fact that they, as well as the Tupi Indians on the coast of Brazil, call the fish-hook »Pinda», which word is plainly identical with the Quichua or Incan name for fish-hook, »Pinta». From this it appears that the Chiriguano and Chané probably learned the use of fish-hooks from the western region of civilization.

It is also known that the first Conquistadores brought fish-hooks for barter, so it is most likely that many Indian

[text continues on p. 46]

[1]) P. 251.
[2]) ANDREOLETTI (1) P. 358.
[3]) PLOENNIES P. 276.
[4]) See NORDENSKIÖLD (8 a) P. 171.

Schwabenhöfld E-6/1 (1908-1909, 1912) 1900
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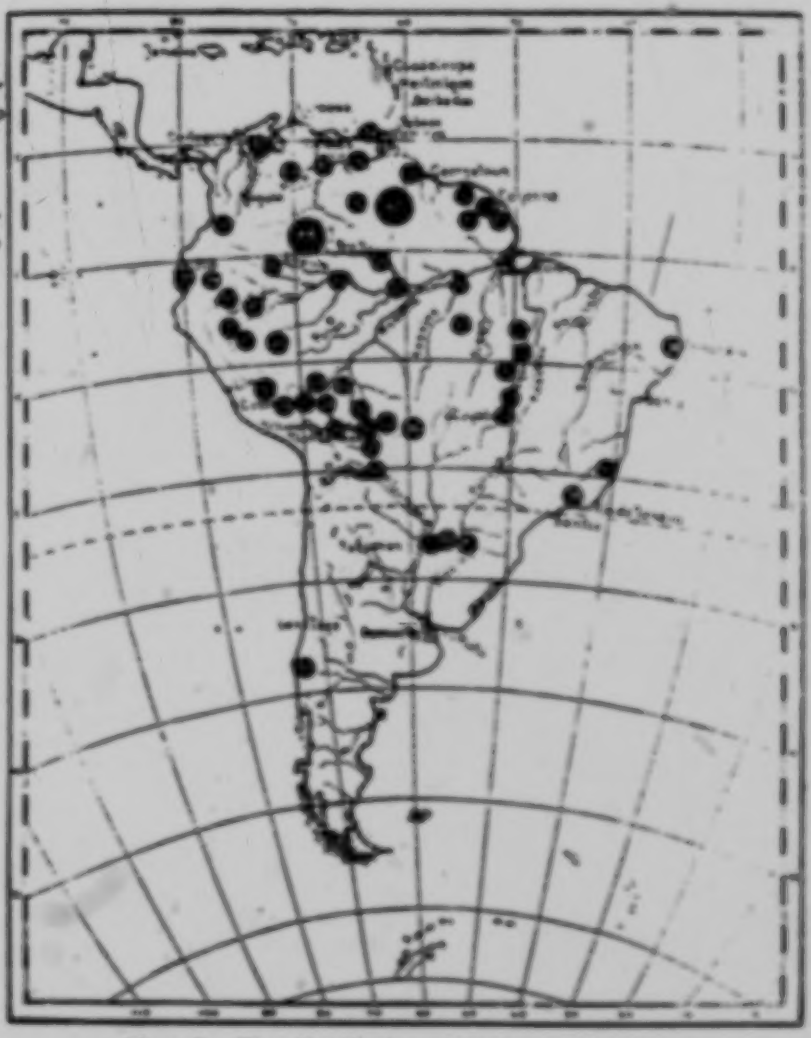

Map. 6. The distribution of fishing with poison

Schwabenbibl E-Ky(1908-1909, 1912) 1909
SP19 Chiriguano SP19
Chaco SP9

tribes have learnt this method of fishing from the whites. As mentioned above, I consider the fish-hook I found among the Tambequita - Guarayos[1]) to be of original Indian type. Something similar is also mentioned by Fiorentini from the Mainas[2]). Fish-hooks of bone occur among the Indians at the Rio Napo. The Uitoto use hooks of wood or palm-spikes.[3]) In rivers where the palometas (Serrosalmo) occurs, fishing with hooks of an inferior material is almost impossible, as these voracious fish bite through a hook with their sharp teeth as easily as they would a line.

Fig. 19. Dam of stone from the Upper Rio Pilcomayo.
A — Entrance. B — Pocket where the fish are caught.

The Chiriguano on the Rio Pilcomayo use a wooden needle with a line to pull up fish that they have caught. Such needles are also known from the Chamacoco, Ashluslay, Toba, Mataco and Lengua.

[1]) (cf. Fig. 19.
[2]) P. [illegible].
[3]) Wallwork P. 122. (See also Whiffen P. 193.)

Schneebeli B-6,5 (1909-1910, 1913) 1910
SF10 Chiriguano SF10
Chaco SF9
Ayoreo SF5
Sarigalo SF11

In the following table I have endeavoured to show the distribution of different methods of fishing that I have seen among the Indian tribes visited by me.

Table 6.

Methods of Fishing.

	Fishing with hook and line	Fishing with spear	Fishing with bow and arrow	Fishing with poison (Barbasco)	Fishing with net	Fishing with basket	Fishing with weir	Fishing with trap	Fishing by damming streams	Fishing by diverting streams	Fishing by draining lakes
Ashluslay	+	—	+	+	—	—	—	—	+	—	—
Ayoreo	—	—	—	—	—	—	+	—	—	—	—
Mashoreno	+	—	—	—	—	—	—	—	—	—	—
Caribs	—	—	—	—	+	—	—	—	—	—	—
Cayuhaba	+	—	—	+	—	—	—	—	—	—	—
Chamba	+	—	—	—	+	—	—	—	—	—	—
Chana	+	—	—	—	—	—	—	—	—	—	—
Chiriguano	—	—	+	—	—	—	—	+	—	—	—
Chimane	+	+	—	—	+	—	—	—	—	—	—
Chiriguano	+	+	+	—	+	—	—	+	+	—	+
Chorote	+	—	—	—	—	—	—	+	—	—	—
Chunupi	+	—	—	—	+	—	—	—	—	—	—
Guarayo (Bliaba)	+	+	+	—	+	—	—	—	—	—	—
" Paraguay	+	—	—	—	—	—	—	—	—	—	+
Huachipa	+	—	—	—	—	—	—	+	—	—	+
Hiaiti	+	—	—	—	—	—	—	—	—	—	+
Ilatuca	+	—	—	—	—	—	—	—	—	—	+
Ilchoca	—	—	—	—	+	—	—	—	—	—	—
Tacshapaka Guarayo	+	—	—	—	—	—	—	—	—	—	+
Tapiete	+	—	+	—	—	—	—	+	—	—	—
Toba	+	—	+	—	—	—	—	+	—	—	+
Tsirikura	+	—	—	—	—	—	—	—	—	—	+
Tumuna	+	—	—	—	—	—	—	—	—	—	—

The Chiriguano and Chané, with the exception of those who live at the Rio Pilcomayo, give the impression of being fishermen without any water to fish in. When there are

[1] See Part I. P. 90.
[2] Of different kinds.

plenty of fish in the Pilcomayo, there is a great trade in dried fish in that part of the country. The Indians tramp long distances in order to fish or get fish by barter.[1]) In places where the fish are so small that they rarely exceed the length of a finger, as in Rio Itiyuro, the fishing, done by women and children, still forms no small part of the diet of the people[2]). It is not surprising that the Chiriguano and Chané are eager fishermen, for no doubt both tribes come from well-watered tracts of the country where fish is abundant.

Fig. 13. Paletas of unknown use (fishing). Chiriguano.
a — B. M. E. 6118. 1/2 b — B. M. E. 6117. 1/4

[1]) Pedro Sivirichaqui (see Diaz-Arias, P. 231: «Del pescado es muy diestro, mas no todas las tribus lo tienen cerca, éstas, cuando saben que en las orillas de los grandes ríos hay en abundancia, caminan hasta ciento cincuenta kilómetros para hacer el cambalache: llevan maíz ó harina y lo cambian por pescado.»

[2]) This is where they get their very clean habits and their cognition to bathe every day.

Smithsonian E-8/4 (1908-1909, 1912) 1910
SF10 Chiriguano SF10
Chaco SF8

C
Ce
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guano until they had settled in their present territory, let us say by trade or other connections with the tribes living in N. E. Bolivia. I will not assert that this is impossible, but I am of opinion that it cannot apply to most of these cultural elements. In any case it does not apply to such cultural elements as rubber balls, certain kinds of basket work of palm-leaves, and hammocks, which clearly overstepped the natural confines as a result of emigration. The rubber for the balls must be procured from the north, and suitable palm-leaves for basket-work is not to be found locally. The hammock is not the kind of bed best suited to this part of the continent.

C
Ce
177
241

Mandioca is now cultivated only as a rarity by the Chiriguano and Chané. It is highly probable that, before they settled in their present habitat, this plant was of considerable importance to them. Neither the Chiriguano nor the Chané depended so largely on maize before they came to the parts they now inhabit. Here they have an excellent soil for growing maize.

C
Ce
177
226

Fish and game are now certainly of less importance to these Indians than they used to be. I mentioned earlier that the Chiriguano and Chané now make the impression of fishermen without water to fish in. A method of fishing which is of no little importance to the kinsmen of these Indians, is fishing with poison. In these parts it is rare, but occurs, at least among the Chiriguano.

C
Ce.
177
224

«Chuchio» (*Gynerium* sp.) was formerly the plant that yielded at least the material for the arrows of the Chané Indians. As it has now been uprooted, its place is taken by another growth of grass, *Arundo donax*. It was not until post-Columbian times that this reed, which is used by the Chiriguano, Chané, and all the Chaco tribes for the shafts of their arrows and for other purposes, was introduced into S. America, where now, not least in El Gran Chaco, it has an exceedingly widespread distribution. (I ought to have pointed this out in the First Part of the pre-

[text continues on p. 212]

6: Nordenskiöld--23 E-S (1908-1909) 1912 SF10 Chiriguano SF 10
Chane SF 8

/180 cont./

the most common among the Chiriguano. Only those women who live with the whites and have adopted their manners and customs carry jugs on their heads.

Division of Labor between the Sexes

Here too, as among the Churoti and Ashluslay Indians, each sex, as a rule, has its specific work, as we see from the following table:

Table showing the division of labor between men and women among the Chané and Chiriguano.

	Men	Women		Men	Women
Fishing . . .	+	+ (1)	Gathering wild fruits and tuber		+
Hunting . . .	+		Ceramics . . .		+
Planting, clearing . .	+		Woodworking . .	+	
sowing . .	+	+	Knotting nets . .	+	
reaping . .	+	+	Plaiting rope . .	+	
Cooking	(2)	+	Plaiting mats . .	+	
Carrying wood . . .	+	+ (3)	Tying hammocks .		+
Carrying water . . .		+	Leather work . .	+	
Preparing intoxicating drinks		+	Making weapons .	+	

1. As a rule, the women fish in shallow water, the men in deep water.

2. Sometimes take part in the preparation of the hunting booty.

3. Among the Chané on the Rio Parapiti.

6: Nordenskiöld--35 E-5 (1908-1909) 1912 5F10 Chiriguano 5F/10
Chane 5F8

/181 cont./

Branches of Subsistence

Fishing and hunting do not play an important role among the Chané and Chiriguano. As I have mentioned before, they are farmers, primarily maize farmers. These Indians live so exclusively on maize that for them all other food plays a subordinate role. The Indians living on the Río Parapití are an exception; they plant more sweet potatoes than maize, and these yield an excellent harvest in their country.

/182/ The following plants are grown by the Chané and Chiriguano:

Sweet potatoes.
Maize.
Squash (Cucurbita pepo Lin.).
Calabash fruits.
Beans of different varieties.
Comm.
Urucú.
Tobacco.
Tuna (for example, at Yatavéti). Opuntia.
Millet.
Mandioca (yare).
Reed for arrow shafts (on the Río Parapití).

In the plantings of these Indians I saw neither ordinary potatoes nor bananas. The sweet potatoes, according to Retizeyu's statements, were introduced at a late period by the whites. Tobacco-raising is insignificant. The Chané and Chiriguano are not great smokers. They mostly smoke cigarettes in maize leaves, seldom pipes (Fig. 88). Among them one need not give his pipe to a neighbor for further smoking.

It is strange how the use of tobacco differs among the Indian tribes. The Aymara and Quichua /Quechua/, who chew coca, very seldom smoke. They have no taste for it. The Chacobo and Attalmaca, two tribes with whom I became acquainted on my travels, smoked just as little. When I offered a Chacobo a cigar

6: Izozdemka366--37 E-5 (1908-1909) 1912 SF10 Chiriguano SF 10
Chané SF 8

/183 cont./

The Chané and the Chiriguano are not great hunters. Perhaps in former times there was more hunting. Their hunting weapons consist of bow and arrow. For hunting wild pigs they use clubs; for ostrich hunts the boleadora /bola/, "churima," was formerly used. Snares and bird nets are also found. In former times the hunters wore /184/ a costume of leather cut in imitation of a European cut, obviously copied from the Spaniards (1). This

1. Virchow already mentions this costume, p. 181.

was not permitted to hang in the house. Formerly, also among the Chané on the Rio Parapiti, no meat could be cooked in the house; rather, this had to be done a short distance away. Boys are, of course, eager hunters of small birds. Like the men, they sometimes use clay-projectile bows.

There are hunting dogs specially trained for hunting wild pigs. In a Chané village on the Rio Ityuro I saw how all the dogs had a red cross painted on their heads, so that they would not be bitten by a mad dog running about in the vicinity. It was truly amusing to see how these heathen Chané protected their dogs against rabies with the sign of the cross.

Betzayo told me that Chané men, when they go hunting, are not permitted to sleep with their wives the night before.

Fishing is carried on differently in the various rivers.

In the Rio Ityuro women and children almost exclusively do the fishing. There are only small fish there too. I saw three methods of fishing there. Angling, fishing with calabashes, and fishing by damming up pools. The fishhooks consist of bent needles obtained from the whites. Floats and sinkers are not used.

Fishing with calabashes is done in the following way. Several bunches of leaves, which give shade, are stuck in the bottom of the river, and in front of each of these is placed a calabash (Fig. 90) with sour, ground maize (residue from beer brewing). The fish gather in the calabashes, which are taken out from time to time by the women. The latter creep toward the calabash, quickly place a hand over the opening, lift /185/ it up, and then empty the contents into pits along the river bank.

/186 cont./

Another method of fishing often used in the aforementioned river is to dam up longish pools in the sand, in which fish gather. After the water is emptied out of the pools, the fish are caught. Sometimes the pond is made to terminate in a channel closed off with a scoop net /Kescher/, from which the fish cannot escape.

All the fishing that I saw on the Rio Itiyuro was done during the dry season, on hot, sunny days.

On the upper Rio Pilcomayo the Chiriguano fish with fishhooks obtained from the whites, with nets similar to the dip nets of the Choroti, though smaller, and by shooting the fish with bow and arrow. The arrows used for fishing have two or more points.

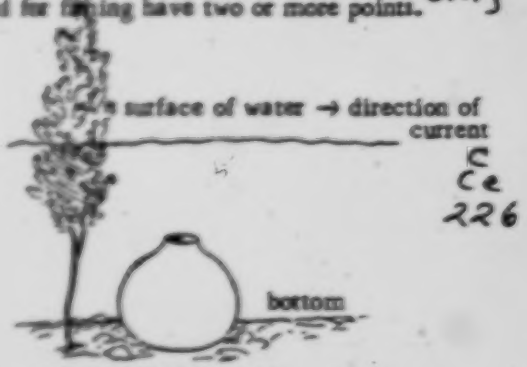

Fig. 90. Fishing with calabash. Rio Itiyuro.

On the Rio Parapiti I saw Chané and Chiriguano fishing with a net of the type illustrated here (Fig. 91). In shooting fish, the Chiriguano there use arrows with many fine points.

In these last-named rivers the men always fish in deeper water with nets and with bow and arrow, whereas the women are content to catch small fish where the water is dammed when the river is half dry.

Not infrequently the Indians undertake long journeys in order to fish. Thus, the Chané sometimes during the /186/ dry season visit the swamps "Madrejones" in which the Rio Parapiti disappears.

/186 cont./

It is strange that peoples who fish so much are acquainted with so little fishing gear. In my description of the Choroti and Ashluslay, we have already become familiar with this deficiency.

On the Rio Pilcomayo Moberg and the author once wanted to give the Indians the benefit of our fishing experience and constructed a weir of which we were not a little proud. We set it out, firmly convinced that in the morning it would be full of fish. All we caught was wood and refuse of all sorts, and I cannot deny that the Indians ridiculed us a bit.

The reason for the poverty of these Indians with regard to fishing gear is not a lack of ideas, but a different one. There are, quite simply, few fishing methods suitable for these waters. Setting out a net at night is not feasible, for if a palometa fish gets into the net it immediately cuts it in two with its knife-sharp teeth. Fishing with a hook where there are such fish is also not enticing, for they bite off the hooks as easily as the lines, if these are not made of good material. In these tropical waters the fishing gear also rots more quickly than among us and thus should not be left in the water all night.

The Chiriguano and Chané have no vessels. On the other hand, they are extraordinary waders, and to wade in the rivers here during the rainy period is not exactly a small matter. If, however, one has the assistance of one of these Indians, one can cross if it is possible at all.

As an oddity I might mention that during my entire journey I never saw a native white or mestizo fishing. In Bolivia it is not refined to eat fresh fish. On the Rio Pilcomayo /187/ the officers of the military post almost never ate the delicious, fresh, salmon-like fish from the river, but preferred canned salmon from Alaska. Since this is very old by the time it reaches Bolivia, it tastes dreadful. Fishing with a hook is also the only method of fishing that the Indians learned from the whites.

As for domestic animals, the dog is the only one that the Chiriguano and Chané did not get from the whites. These dogs now seem to me to have a strong mixture of foreign blood. They always have names, for example, tirupotchi (old garment). /Fig. 91 appears here/ chapikáyu (yellow eyebrows). As a rule,

7:Rosen E-5 (1901-1902) 1924 SF10 Chiriguano SF10

CHAPTER VIII.

The Chiriguanos (2).

Industries. Cultivated plants. Hunting. Fishing. Vessels for food and drink. Intoxicants and stimulants. Music and dancing. Social order. Customs governing marriages, childbearing, illnesses, death and burial. Character and temperament. Belief in metempsychosis.

The Chiriguano are mainly an agricultural people, but they also do a certain amount of hunting and fishing. Maize is the most important of their cultivated plants, and it is very extensively grown by them. Many other Indian domestic plants are also cultivated, viz. pumpkins, sweet potatoes, beans, mani, cactus with edible fruit (Opuntia), tobacco, cotton, uruku (Bixa orellana), and a reed plant (Arundo donax) for making arrow-shafts. Of imported cultivated plants grown by the Chiriguano, I have seen melons, water melons, sugar cane and oranges. According to Nordenskiöld, they also grow figs and millet,[1] these latter of course also having been introduced by the whites. Nowadays, European spades and hoes are used for loosening the soil. Among wild-growing food plants the algarrobo tree (Prosopis alba) is, to the Chiriguanos, the most important one. The Indians also prepare from the fruit of this tree an intoxicating drink to which they are much addicted.

The Chiriguano larder does not to any great extent depend on hunting the game, but formerly hunting must certainly have been an important source of subsistence. Snaring is, nowadays, the only method of hunting employed by the Chiriguano. The long-bow, the pellet-bow, slings, bird-nets and clubs are still occasionally used in hunting.

In olden times the Indians were good shots with the bow and arrow, and, according to Lizarraga, they then used bows the height of a man.

[1] Nordenskiöld (12), pp. 23 and 24.

7:Rosen E-5 (1901-1902) 1924 SF10 Chiriguano SF10

Fig. 215. A Chiriguano Indian with a fish spear. San Luis, Bolivia. Photo. E. v. R.

less. For the rest, the pellet-shooting long-bow is, compared with the pellet-shooting crossbow of the Old World, in any case a pretty poor weapon, both for war purposes and for hunting, which may explain its inconsiderable distribution even in well-wooded districts. Where this weapon nowadays occurs, it is only used for killing small birds, for target practice, and as a toy.

Fishing is carried on in the water courses with which the country is sparingly supplied. The Indians use hooks, nets, fish traps and weirs. These fishing methods are, however, almost exclusively used for fishing in rivers or largish bodies of water. In shallow streams and rivulets, the fish are shot with arrows, or speared with a two-pronged fish-gig. Fishing with poison is also said to be made use of.[1]

A fish trap consists of a large, bottle-shaped calabash, wide in its lower part, but with a narrow neck. The trap, which is placed under the lee of a few boughs stuck into the river bottom, must not be set in deeper water than makes it possible for a wading person to reach the neck of the calabash. Ground bait, consisting of crushed, sour, maize, is put into the calabash. The fish will then collect inside the calabash, and the fisherman has only to carefully raise the trap out of the water. In the sandy river banks ponds are dug, and connected by a small channel with the river. When fish have collected in the ponds, the connecting channel is blocked up, the pond emptied of water, and the fish gathered up.[2]

Fig. 216. Detail of the fish spear in fig. 215. The prongs are of hard wood. Chiriguano. San Luis, Bolivia. 1/4. Riksm. 03. 3. 904.

Among the Chiriguano Indians I visited, fish-shooting was a common practice. For this they used their smallest and weakest hunting bows. But it is also possible that those light bows I saw being used for shooting fish with, were exclusively employed for that purpose. If so, then the bow in fig. 202 is a fish bow. The arrows are long, and are usually provided with

[1] Nordenskiöld (12), p. 40.
[2] Nordenskiöld (18), pp. 170 and 171.

411
[226] two barbed prongs made of some hard wood (figs. 213 and 214). The arrow in fig. 210, which has only one prong, is used both in hunting and
[824] for fish-shooting. The Chiriguano also use fish arrows pointed with a number of cactus spines.[1]

The fish spear has in later times become a very scarce implement with the Chiriguano. The only specimen obtained, as far as I know, is the one brought home by me, and now belonging to the Rikamuseum in Stockholm (figs. 215 and 216). Erland Nordenskiöld, who has compiled
[114] a map of the distribution of the fish spear in South America, has been kind enough to inform me that the only mention he has come across in the literature, concerning its occurrence among the Chiriguano, is to be found in the account of the Viceroy Francisco de Toledo's unsuccessful expedition against these Indians.[2]

The fish spear I came upon among the Chiriguano in the neighbourhood of San Luis, has a 260 cm long shaft, made of some light kind of wood, very free from knots,[3] at one end of which two barbed wooden prongs are lashed on by means of a thin leather thong. The full lengths of the prongs are, respectively, 32.1 and 31.5 cm, and they project 20.2 cm from the shaft. One of the points has, however, been of a somewhat greater length, but has got blunted off. Both points have seven barbs on their outer sides. To ensure a perfectly firm fastening of the prongs, the fore end of the shaft has been wrapped with a piece of cloth, and over this the prongs have been lashed on.

323
[462] I have already enumerated the various kinds of Chiriguano household furniture. Among them, clay vessels hold a very important place. The Chiriguano are clever potters. It is only the women, though, who work at this industry.

In fig. 217 we see a potter's workshop, with a number of finished and unfinished pieces of earthenware. At the hut entrance is sitting a woman, who, with a piece of stick, is giving a finish to a large pot, which has been built up of rolls of clay, and is still unburnt.

[126] In figs. 218—225 I have reproduced some typical Chiriguano clay vessels that I collected at Aguayrenda. These vessels are particularly well made. The peculiar rim warts seen on the hanging vessel in fig. 225,

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[1] Nordenskiöld (18), fig. 15 a.

[2] Acosta (1), Part I, Chap. XV.

[3] Unfortunately, during its transportation home, the handle was, unknown to me, cut into two parts.

C Ce 343 182 171 231 /18 cont./ Their Purpose today among the Chiriguano and Chané, as well as among the Matako and Churupí, is primarily to protect certain provisions against the numerous dogs and other domestic animals who are around in great number in every part of the town (74).

74. Concerning the question of the purpose of houses built upon posts with respect to damage by animals, cf. v. Rosen, op. cit., pp. 192-198.

C Ce 433 224 226 Food and Drink. Manner of Eating and Drinking.

Hunting and fishing are not very important in the economy of the Chiriguano and Chané. Their territory has relatively few edible animals, and they are not very brave hunters (75).

75. Nord. 2, p. XVI.

C Ce 224 262 Of animals that can be hunted, they eat the puma and the jaguar, while they scorn vultures, foxes, and the meat of monkeys, so craved by other Indians (76). One contribution

C Ce 226 184 76. Nord. 1, p. 190.

to their subsistence which is worth mentioning is that from fishing, but only for the Chiriguano and Chané who live near the upper Pilcomayo River, since that river has excellent fishing. These Indians cannot make much use of fishing in the Río Grande, because today this river can be held to be almost the frontier of their territory. The Parapití River has many fish, but they are very small. While the Chané today live in territories where for several months some fish are available, many Chiriguano towns are so far from the larger streams that fish 060 does not enter into the diet of their inhabitants (77). With

77. Nord. 2, pp. XV and XVI.

C 411 /43 cont./ The Chiriguano in contact with the Quichua /Quechua/ also use another type of sling made of wool (200).

200. Métraux 1, p. 342 and Plate VII.

C 224 [411] According to Nordenskiöld, the Chiriguano also formerly used the bola, called "churima," by them, for hunting the ostrich (201).

201. Nord. 1, p. 183.

C [231] We must still mention that the Chiriguano train their dogs for hunting, especially for hunting pigs (202).

202. Nord. 2, p. 31. Métraux 1, p. 346.

Fishing

C 433 226 Because, as I have already mentioned, there is no opportunity for fishing in any part of the Chiriguano territory nd also the large rivers which are in their territory, except for the upper Pilcomayo River, do not offer any fish other than very small ones, fishing has only secondary importance in the economy of most of the Chiriguano, although they utilize every chance they have to fish.

C 227 Among the Chiriguano in Machareti I did not see any fishing equipment outside of the small arrows with wire points, which are occasionally used for fishing. But among the Izozó CE 126 227 I acquired such a piece of equipment, which consists of a net bag that is closed at the top with two sticks of cane attached to the upper edge. (Cf. Figure 39.)

8: Schmidt--105 E-5 (1935) 1938 SF10 Chiriguano SF10
Chane SF8

/44/

CE 227 126

Fishing Implements in the Collection

I. A. 764. Fishing implement (Izozó). Length of the sticks 73.5 cm. Width of the net 24 cm. (Fig. 39).

I. A. 795-801. Net bags for implements like I. A. 764 (Izozó).

C CE 227

Because of the flexibility of the two cane sticks attached to the upper edge of the net bag, the bag can be made to open by tension on the two sticks of cane. The opening thus made closes quickly when the tension ends. Such an implement of the Chiriguano of the Parapití is shown in a drawing by Nordenskiöld (203).

C 227

203. Nord. 1, Fig. 91.

C CE 226

Among the other methods of fishing I shall mention, following v. Rosen and v. Nordenskiöld, the following: First, fishing by means of a gourd placed on the bottom of the river in the shade of a branch which is attached to the bottom near it. When the fish attracted by acidified maize have gathered inside the gourd, its opening is quickly closed with the hand (204). In addition the Indians of the Itiyuru River make

204. Nord. 1, p. 194 and Fig. 90.

oblong pools by building dikes (205), and those of the upper

205. Nord. 1, p. 185.

Pilcomayo River build large stone dikes for fishing (206). It

206. Nord. 2, pp. 43 and 44.

is said that on this river they use the bark of a particular tree to poison the water (207). They also fish with hooks, which

207. Nord. 2, p. 40.

C
Ce
226
[439]
[171]

/44 cont./The also fish with hooks, which today they obtain from the whites. But it may be that the hook is an implement of their ancient culture (208). In

208. Nord. 2, p. 44.

addition, they fish by means of deep nets like those of the neighboring Chaco tribes, such as the Chorote, the Churupí, the Matako, and the Toba (209). They also fish with arrows

209. Nord. 2, p. 43. Métraux I, p. 350, Fig. 80.

and formerly with spears with two points. On his trip in 1901-1902, v. Rosen acquired one specimen of these spears from the Chiriguano, which he has described and shown in a sketch (210).

210. V. Rosen, op. cit., p. 214 and Fig. 216.

C
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227
411

Among the Chiriguano and Chané arrows specifically for fishing, we must distinguish two different kinds, one for larger fish, with two dentate wooden points (211), and the other for

211. Nord. 2, Fig. 15b. V. Rosen, op. cit., Figs. 213 and 214.

small fish, provided at the upper end of the shaft with a large number of cactus spines (212).

212. Nord. 2, Fig. 15a.